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Marketing Fresh Fruit in Europe

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U. S. Department of Agriculture

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UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

MARKETING FRESH FRUIT IN EUROPE

By Edwin Smith

Senior Marketing Specialist, Bureau of Agricultural Economics[1]

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DEVELOPMENT OF FRESH-FRUIT TRADE WITH EUROPE

The fresh-fruit export trade of the United States with Europe began with the exportation of apples in the eighteenth century, and by the year 1800 this trade was measured by thousands of barrels per season. Only the hardier varities were sent in sailing ships.

The quantities of fruit exported have constantly increased with the development of improvements in transportation facilities, including speed and regularity, and the lower temperatures brought about through refrigeration and ventilation. These improvements made possible the shipment of a greater range of apple varieties over a longer season and paved the way for the exportation of plums, peaches, and cranberries.

Development of the Panama Canal route for apples, oranges, grapefruit, and pears has given a great impetus to fresh-fruit exports from

[1] Credit is due L. A. Wheeler, agricultural economist, foreign section, Division of Statistical and Historical Research, for assistance in the statistical phases of this report.

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western United States. This route has slightly reduced the cost of marketing Pacific coast fruits in Europe, and, by the use of efficient refrigerator ships (fig. 1), cold-storage conditions can be maintained over the entire journey to market, thus making it possible to deliver fruit at point of destination in a better condition than formerly.

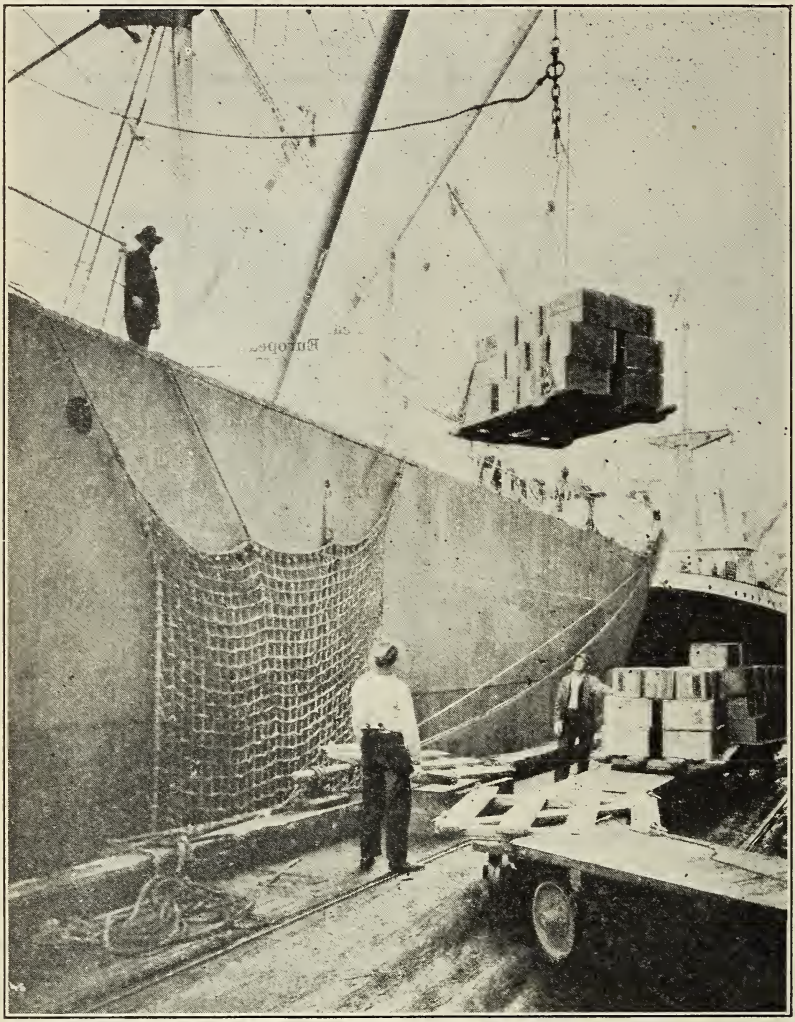

FIGURE 1.—Loading American boxed apples at Seattle, Wash., for export to Europe via the Panama Canal

Fruit exports from the United States reached a total value of $110,000,000 in 1926. (Table 1.) This total included fresh fruit valued at $53,000,000; dried fruit valued at $31,000,000; canned and preserved fruit valued at $26,000,000. European countries received 68 per cent of our total fruit exports during that year, taking $30,000,000 worth of fresh fruit, $23,000,000 of dried fruit, and $22,000,000 of canned and preserved fruit.

TABLE 1.—*Fruit, fresh, dried, and canned or preserved: Value of domestic exports from the United States to all countries and to Europe, 1926*

Kind of fruit	Value of domestic exports to—		
	All countries	Europe	
		Total	Percentage of all countries
Fresh:	*1,000 dollars*	*1,000 dollars*	*Per cent*
Apples	30,474	25,781	84.6
Pears	3,603	1,720	47.7
Oranges	11,416	1,050	9.2
Grapefruit	1,773	876	49.4
Peaches	523	31	5.9
Grapes	1,536	26	1.7
Berries	907	18	2.0
Other	2,883	85	2.9
Total	53,115	29,587	55.7
Dried	30,676	23,210	75.7
Canned or preserved	26,520	22,015	83.0
Total all fruit	110,311	74,812	67.8

Compiled from Foreign Commerce and Navigation of the United States.

Fresh fruit from the United States finds a wide distribution in Europe. In addition to such important direct markets as Great Britain, Germany, and the Scandinavian countries it reaches many interior countries not shown in tables of exports. Apples, for example, are reshipped from the primary ports to such countries as Switzerland, Austria, Poland, and Finland. The World War prevented this redistribution from becoming as great as it probably would have been, because of the elimination of Russia as one of our markets and because of the impoverishment of the central European nations.

The principal American fresh fruits now marketed in Europe are apples, pears, oranges, and grapefruit. Other fruits are shipped in smaller quantities, and their importance in the export trade seems to be increasing. They include plums, peaches, cranberries, and other berries, and grapes. Table 1 shows the exports of these fruits to Europe in 1926 as compared with the total exports from the United States in that year. About 85 per cent of the exports of apples, 49 per cent of the grapefruit, and 48 per cent of the pears went to Europe. Europe was a relatively small outlet for the other items, but even for these there is a definite tendency toward the shipment of larger quantities to that continent. Additional statistics on the quantities of fruit exported to Europe are found in the appendix.

COST OF MARKETING FRUIT IN EUROPE

European fruit brokers have now long followed the practice of making two charges for their services. One is a commission charge; the other is a consolidated handling charge which includes disbursements at the port of discharge for dock or wharfage dues; labor for receiving, piling, and delivering; various market tolls and porterage fees; and revenue for themselves.

This has caused confusion in the minds of American shippers since they have been unable to determine what they were paying for sales service and what was actually disbursed by their overseas' agents for transportation and handling.

COMMISSION CHARGES

There is a great variation in the rates of commission in any given market. (Appendix, page 113.) The lower rates usually apply to "spot" business, that is, to selling goods that have been delivered by the shipper. These rates usually imply that the shipper has a representative in Great Britain. The higher rates are charged on "direct shipments," that is, where the shipper has no representative in the market and the broker assumes the work of financing the freight, insurance, handling charges, etc. In the case of some large shipping accounts, "spot" rates are given for "direct" business. Some forms of shipper representation in Europe are remunerated by securing "spot" rates and charging "direct" rates on consignments handled.

"Direct" business usually requires the broker to maintain an agent or solicitor in the shipping district, whereas in "spot" business the broker is relieved of this expense. The basis on which many auction brokers operate is to divide the commission between themselves and their American agents, retaining 3 per cent of the sales price, and remitting the difference between this and the rate charged to their shipping agents.

If consignments are made directly to the commission merchant instead of to the auction broker his charges are usually from 7 to 10 per cent. In Germany, commission merchants usually charge 8 per cent.

The Scandinavian f. o. b. orders placed by resident agents are charged for at the rate of 5 per cent of the stated price. The Scandinavian agent submits his bill to the American shipper for his commission, since settlement for the purchase is made by the importer to the Scandinavian or American bank to meet the draft for the invoiced amount. The agent usually pays for cables sent from his office.

CONSOLIDATED HANDLING CHARGES

In most European ports, expense is incurred in handling fruit from the ship's side, preparing it for sale, and making delivery to the European buyer. Most ports make a charge for the use of the quays and sheds. If the fruit stays on the quay for more than two to four days, a slight charge is made for storage. The labor performed in moving the fruit from the ship's side, separating it as to consignee, and delivering it to railway car on truck is usually performed and charged for by the port authorities. This is termed "master porterage," and only in exceptional instances when handling American fruits is this labor performed by the fruit brokers. Where docks are owned and operated by railway companies, as at Southampton, an inclusive charge is often made, covering both labor and use of the dock.

In a market like London, expense is involved for haulage from the docks to the salesroom. Here also certain market tolls and

porterage fees are assessed in Covent Garden. They are a form of rent and labor charge that the commission merchant passes on to the shipper.

Fruit brokers maintain dock superintendents who place a crew of men under a foreman at each ship that is unloading, to direct the dock workers in piling according to "tights," "slacks," size, grade, brand, and variety. These men sometimes do the piling of boxed apples themselves to save time and get better results. Such "selectors" list the receipts as to classification and report them for cataloguing. At most ports they choose the packages to be shown. The same men also repair broken packages, check delivery, and guard the brokers' and shippers' interests when the dock workers take the fruit from the quay shed. The fruit brokers also have to haul samples from the docks to the auction salesroom and there open them for display.

A major item of expense that falls upon the fruit broker is the printing of the catalogues. This expense is much less if a commodity like boxed apples is received in large lots from a cooperative association than it is if small lots of "tight" and "slack" barrels of different varieties, sizes, and grades have to be catalogued separately for hundreds of growers.

To cover these items the fruit brokers in each port have agreed to have one consolidated handling charge for each type of package received. (Appendix, p. 113.) So many of the items involved in consolidated charges are rightfully a part of the broker's cost of doing business and should be covered by a selling commission that it is impossible to segregate them and state what portion is profit. Therefore segregation of handling charges in the Appendix has been made as to "Landing costs" which refer to amounts necessary to be paid out as taken from published tariffs in the various ports, and to "selecting, classifying, cataloguing, and profit," which may be considered revenue in addition to the rate of commission.

Some brokers charge separately for cable and exchange expenses. These are necessary costs of doing business, and whether they are to be absorbed by the broker or by the shipper, or jointly, is a matter for arrangement and understanding. The present system of making charges is unsatisfactory to the American shipper, and it is only a question of time before European brokers will find it advisable to deduct only those amounts actually paid out for landing costs and to adjust their rates of commission to cover costs of doing business and profit. Greater satisfaction and more confidence will follow when hidden charges are dispensed with and account sales deductions are made to agree with published tariffs.

Generally speaking, the cost of doing business under methods now in vogue in Europe is higher than in the United States. If shippers and growers are represented in Europe by honest and intelligent brokers they should become reconciled to paying a higher rate than they would for the same talent and facilities in the United States, where close oversight and quick changes are always possible. Furthermore, if distribution is wanted in a foreign country, supplying profitable operations for the country's merchants constitutes one of the greatest forces for holding and extending this distribution business.

GOVERNMENT INSPECTION OF EXPORT SHIPMENTS

The nature of the business may determine whether Government inspection is to be utilized by the shipper in the United States at shipping point or at point of export. In most cases the precaution of an inspection at the point of export is a profitable one. Exporters or European buyers who order inspections at the point of export should understand that some provision should be made for disposal of the car within the United States should the inspection certificate indicate that the fruit is not in fit condition for shipment abroad, because the inspector has no power to stop exportation of a poor lot. Arrangements for this service may be made with a forwarding company or with a dependable broker situated at the seaport.

FIGURE 2.—Loading and inspecting American barreled apples at shipping point

The food-products inspection service of the Bureau of Agricultural Economics has established certain condition standards under the designation "U. S. export standards." When writing certificates for fruit intended for export, the inspectors use the statement "Meets U. S. export standards," or "Does not meet U. S. export standards." Apples that meet the condition requirements of the export standards at the time of inspection do not necessarily arrive at export destination in satisfactory condition, because of the many storage and transportation influences intervening between inspection and arrival abroad. However, a certificate stating that the apples meet United States export standards at point of export indicates that they are fit for export. Methods of inspection at shipping point are shown in Figure 2.

FOREIGN SERVICE OF THE DEPARTMENT OF AGRICULTURE

The United States Department of Agriculture gives specialized attention to agricultural foreign competition and demand. A staff at Washington, D. C., compiles, analyzes, and disseminates intelligence as to the foreign markets of all agricultural products, with special attention to the information needed by farmers. Agricultural commissioners are stationed at London, England; Berlin, Germany; and Shanghai, China; and agricultural commodity specialists visit foreign markets from time to time. At present one fruit and vegetable specialist is stationed at London to cover European markets. His duties cover (1) a market news service, (2) inspection of condition of fruits upon arrival, (3) participation in European conferences and discussions where technical knowledge of American producing and shipping methods are involved, and (4) survey of conditions and methods in competing fruit districts of Europe. The department's agricultural commissioners and this specialist are available to investigate special problems for American fruit growers and shippers when such work is consistent with their general duties.

ADVERTISING FRUITS IN EUROPE

The import brokers of Great Britain formed a committee in 1922 to undertake the advertising of fruits to British consumers. The campaign was launched in September, 1923. A London firm of advertising agents was appointed to carry out the scheme which was to be supported by a contribution of one-half penny (1 cent) per package on all imported fruits. This expense was to be shared by shippers and brokers, the shippers' portion to be deducted from account sales. A firm of accountants was appointed to receive and disburse funds on behalf of the committee, which has now taken the name of Fruit Traders' Federations, with headquarters at 10–13 New Bridge Street, London, E. C. 4.

The first year's activities involved an expenditure of some £32,000 ($156,000). The slogan of "Eat more fruit," was adopted. Both the advertising and editorial columns of the British press were used; thousands of lithographed posters were placed on billboards; and some 200,000 pieces of special advertising were distributed among the retail trade.

During subsequent seasons the work has been extended in several directions, though the budget has not increased much above £33,000 ($161,000). The most notable advances have been made in encouraging the retailer and in enlisting the support of the medical profession.

Success with the retailer has been realized by setting up a retailers' propaganda association, membership in which costs 7 shillings and 6 pence ($1.82) per year. For this fee the retailer receives, in addition to a bit of window-display material, 30 fruit-recipe books which he can retail at 3 pence (6 cents) each, and thereby get his money back. This system has been tremendously successful since, in addition to realizing a considerable revenue, it arouses the retailer's interest and

causes him to use his window material and consumer hints more effectively than if they were received without cost. Two men with motor trucks visit retailers throughout the Kingdom, delivering advertising material as they enroll new members. To date, over 12,000 retailers have been enrolled in the association.

A capable publicist is employed to furnish editorial copy to the press of Great Britain. This publicity has had its most salient influence when it has enlisted the support of the medical profession whose recommendations for a fruit diet have weight with the public at large.

Similar campaigns were instituted during the winter of 1926–27 in Germany and Denmark, and at Gothenburg, Sweden. These were made on the basis of a health appeal, a modified form of the British program being used. The German import brokers, through their advertising secretary, have added a commendable feature in the free distribution of fruits in those hospitals whose patients demand a fruit diet. This usually seems to secure the good will of the local medical profession.

Advertising has power in influencing dietary habits and therefore is of special importance to fruit producers. In countries in which distribution largely takes place through auction sales instead of through personal salesmanship advertising to the consumer has added significance.

APPLE-EXPORT TRADE WITH EUROPE

The predominating importance of apples in our fruit trade with Europe makes it necessary to give this fruit major consideration, but much of the description and discussion of apple marketing in Europe is applicable to other fresh fruits. Exceptions to this, or additional information on marketing other American fruit, will be noted under appropriate headings.

The importance of Europe as an export outlet is indicated by the fact that, on the average, about 93 per cent of the barreled-apple exports and 77 per cent of the boxed-apple exports of the United States are shipped to that continent. The principal direct market is the United Kingdom, which takes almost 80 per cent of our apples exported in barrels and 55 per cent of our boxed apples. Germany, the Netherlands, and the Scandinavian countries take most of the remaining exports to Europe. The ultimate distribution is not accurately reflected by the export statistics, because of the important European reexport trade, particularly that between the United Kingdom and the Continent. Table 2 shows direct exports to the principal markets and the relative importance of these markets and of Europe as a whole in the apple-export trade of the United States.

TABLE 2.—*Apples, boxed and barreled: Domestic exports to all countries and to Europe, average 1923–24 to 1926–27*

Country to which exported	Average 1923–24 to 1926–27			
	Barreled apples		Boxed apples	
	Total	Percentage of total	Total	Percentage of total
	1,000 barrels	*Per cent*	*1,000 boxes*	*Per cent*
United Kingdom	1,943	78.7	3,364	54.7
Germany	113	4.6	646	10.5
Sweden	76	3.1	155	2.5
Denmark	61	2.5	105	1.7
Netherlands	37	1.5	339	5.5
Norwray	26	1.0	112	1.8
Other Europe	28	1.1	28	.5
Total Europe	2,284	92.5	4,749	77.2
Other countries	184	7.5	1,400	22.8
Total	2,468	100.0	6,149	100.0

Compiled from official records of the Bureau of Foreign and Domestic Commerce.

COMPETITION FROM EUROPEAN-GROWN FRUIT

The demand from year to year in all of the European markets for apples grown in the United States is governed to an important extent by the competition from fruit produced either in these countries or in neighboring regions. Growers and shippers in the United States who are interested in what the future holds in the way of a European market for their fruit should keep posted as to this competition.

PRODUCTION IN GREAT BRITAIN

England, probably, has had home-grown apples since the days of the Roman Empire. Although it is stated that as early as 1650 English growers had as many as 200 varieties of apples and that apple culture reached its peak during the seventeenth century, commercial market apple growing on the island is of comparatively recent date. Continental wars shut off supplies of wine and furnished an impetus to grow apples for cider purposes, and this led to commercial orcharding.

Production of market apples has been greatly stimulated during the last 20 years, as English growers have learned that their markets are not confined to the nearest city, but extend over the entire Kingdom. There has been a reduction in the total apple acreage in England, however, as indicated by the fact that in 1919 there were 147,401 acres of apple orchards, as compared with 171,234 in 1910, a decrease of 14 per cent.[2] This decrease has undoubtedly been due to losses in the apple acreage of the counties that produce cider, as the acreage and production of the counties that produce market apples have been increasing steadily.

[2] Estimates of acreage are taken from the following publication: WELLINGTON, R. ECONOMICS OF APPLE GROWING IN THE BRITISH ISLES.

The three principal apple districts are in the west of England, in Kent, and in East Anglia. The one in the west of England has the largest acreage (about 72 per cent of the total in 1910 and 47 per cent in 1919), but it is the least important from a marketing standpoint. The numerous orchards of Worchestershire, Devon, Somerset, Hereford, Monmouth, and Gloucester were planted and are still maintained principally for the production of cider apples. Kent is by far the most important market apple-producing district; increase in production is indicated by the fact that it had 20,487 acres in 1919 against 13,358 acres in 1910. Typical new plantings of Kent are shown in Figure 3. East Anglia, with its orchards in Cambridge, Norfolk, Suffolk, Hunts, Essex, and Lincolnshire, comes next in importance in producing market apples. In 1910 there were 10,568 acres of apple orchards in East Anglia; in 1919 the total had risen to 13,911.

FIGURE 3.—English fruit culture. A "ground crop" of Black Currants grown between young apple trees, near Canterbury, England

The production of apples in England and Wales fluctuates greatly from year to year. In 1927 the production of dessert and cooking apples reached 13,876,000 bushels as compared with 2,604,000 in 1926, and 15,213,000 in 1925. Table 3 shows the production of dessert, cooking, and cider apples during the 6-year period 1923–1928.

TABLE 3.—*Apple production in England and Wales, 1923–1928*

Year	Dessert and cooking apples	Cider apples	Total production	Year	Dessert and cooking apples	Cider apples	Total production
	1,000 bushels	*1,000 bushels*	*1,000 bushels*		*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
1923	7,140	3,687	10,827	1926	2,604	2,415	5,019
1924	5,553	2,660	8,213	1927	13,876	4,307	18,183
1925	15,213	2,707	17,920	1928	6,781	3,115	9,896

Compiled from reports of the British Ministry of Agriculture.

Among the principal varieties grown for market are the Gladstone, Beauty of Bath, Worcester Pearmain, Cox Orange Pippin, Newton Wonder, Lane Prince Albert, Lord Derby, Blenheim, Bismarck, Miller Seedling, and Bramley Seedling.

The major part of the harvesting takes place in August and September, though English apples are sent to market from July till late winter. Most of the apples are marketed in bushel baskets that are known as the bushel sieve. They are cylindrical in shape and of wicker weave. Half-bushel sieves and open-headed half barrels are also used, and a small beginning has been made in the use of standard boxes. Competition from Canadian apples and apples from the United States has forced English producers not only to raise their standards of packing but to pay more attention to producing clean fruit. Figure 4 shows a Kentish orchard under modern culture.

Little use has been made of refrigeration for storing apples in England. Growers who produce clean fruit and have introduced

FIGURE 4.—A modern English orchard. These new cultural practices were introduced by an orchardist who had grown fruit for 16 years at Medford, Oreg.

modern cold-storage practices have been very successful. The use of cold storage is certain to increase. This will extend the marketing season of culinary apples in such a way that they will supplant a certain quantity of American fruit. The choice dessert varieties are of early maturity and suitable only for short storage, but one of the best cooking varieties, Bramley Seedling, which has been heavily planted in recent years, keeps well in cold storage.

Competition of English-grown fruit in British markets is destined to be of more importance in the future than in the past. Irregularity in production in English orchards causes this competition to be erratic from year to year. This fluctuation in demand will affect American producers of culinary varieties more seriously than those of dessert varieties. Since boxed apples are usually placed in the dessert class, it may be said that the future of English home production will have its greatest influence on those areas in the United States that produce barreled apples.

CONTINENTAL PRODUCTION

Germany

Home production of apples in Germany is well scattered over the Republic. There are no well-defined commercial apple-producing districts, since trees are treated as auxiliaries to meadows. The district around Lake Constance is favorable for fruit growing, which is conducted on a large scale, although vast quantities of the apples are used for cider making. Dessert apples from these districts are sent to the industrial districts of Westphalia and north Germany.

Denmark, Southern Sweden, and Norway

In Denmark and southern Sweden, home production of apples is like that in Germany—mostly of a miscellaneous farm culture. As these countries lie farther north, crops are more uncertain, and the result is that the competition offered to outside supplies is variable from year to year.

In Norway apple production is restricted to narrow valleys on the west coast, principal among which is the Hardanger Valley. Here the production consists mostly of a firm, good-keeping Gravenstein.

These noncommercial northern European apple plantations are given very little care, and at harvest the fruit goes to market in bulk, baskets, or bags. The fruit is rushed to market over a short season, sells at low prices, and, together with importations from other Continental orchards, makes for a small demand for American apples until the best of the European fruit is out of the way. This time normally comes about December 1, or earlier in years of short crops.

The Netherlands

Dutch apples move largely to German markets, as do some French apples, and smaller quantities go to the Scandinavian countries. Comparatively few are exported to England. Apple production seems to be flourishing, and indications are that competition from this source will increase.

The Dutch orchards are found in the vicinity of Utrecht and to the southwest around Arnheim and Nimwegen. Next to the English, Dutch apple orchards are on the best commercial basis of any European orchards inspected by the author. The best apple varieties are of the Reinette group. Some possess good eating and keeping qualities, but the climate does not allow good color and finish. Dutch farmers frequently sell their apples at community auctions, which are a feature of most fruit-producing districts in the Netherlands. The buyers are representatives of distant commission merchants. The fruit is marketed in barrels, boxes, and bags, and is sold by weight. When sold in boxes the apples are usually placed loosely in the boxes, the package being similar to an American "lug" or orchard box.

Both sod and clean tillage are practiced, the former predominating. Trees are trained to high heads, and livestock is usually pastured in the orchards. The trees are sprayed with Bordeaux mixture and lime-sulphur for apple scab.

Outside of England and Holland, European apple culture loses the features of a commercial industry as an American fruit grower

recognizes them. In other continental countries the growing of these fruits usually takes one of two forms: (1) Garden culture (fig. 5), or (2) field or meadow culture (fig. 6). Peasant agriculture can not seem to adapt itself to production in large orchards, specializing in a few fruits.

FIGURE 5.—Garden culture in northern Italy. Dwarf apple trees, espalier trained, at Bolzano

FIGURE 6.—An Italian apple orchard showing meadow culture in the upper Adige Valley. Either culture of this general character or that of "garden culture" represents the manner in which apples and pears are grown on the Continent of Europe

Czechoslovakia, Switzerland, and Italy

When reference is made in crop reports to "Continental apples," one should call to mind the Czechoslovakian trees that line the roadsides and cover the fields in Bohemia, largely on territory in the valley of the River Elbe; the thousands of apple trees that cover the grassy mountain slopes of Switzerland and Bavaria; and the closely planted vines and trees in the fruitful valleys in the Dolomites of northern Italy. These are the great surplus apple-producing districts of Europe.

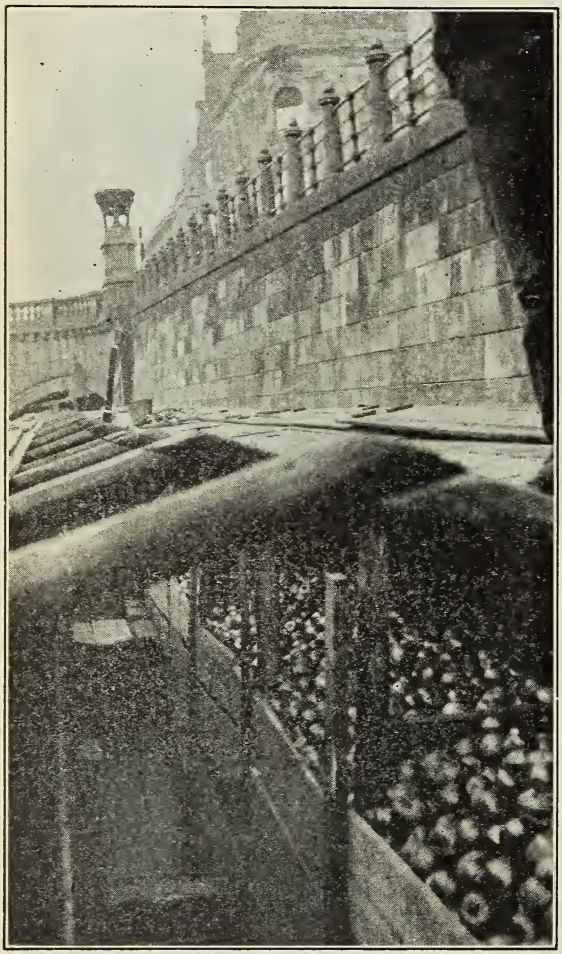

Figure 7.—Czechoslovakian apples in Berlin. Showing bins of apples in one of the 100-ton barges that carry apples and pears from Bohemian orchards to German cities

Large barges of Czechoslovakian apples are shipped in bulk to German cities (figure 7), flooding the markets in years of good crops. Plums and pears are also important. Large quantities of the latter are packed in 22-pound baskets and shipped by rail to all of the northern markets, including England.

Czechoslovakian fruit culture is of the field or meadow type with the apple trees interspersed with plums and pears. The production of fruit, with the exception of pears, has experienced a recession since the World War, and there are no indications of increased plantings or revolutionary changes in packing and shipping.

Bulk railroad shipments from Switzerland are similar to those from Bohemia and play their part in German markets. Both garden and meadow culture are used on trees scattered all over the northern Cantons. Surrounding Lake Constance, both in Germany and Switzerland, are many apple trees, and it is from this source as well as from the vicinity of Zurich that shipments are made in years of

heavy crops. The peasants are slow to take up modern horticultural practices, and no immediate change in the status of the industry is anticipated.

Apple growing is well scattered over Italy, but the only production that looms as serious competition to American apples is that of the upper Adige district around Bolzano and Merano. During the marketing season this fruit is to be seen in all of the principal markets of the continent. There are a few cultivated orchards in the district, but most of the trees are planted in sod, with a mound spaded for the application of fertilizer at the base of each tree. Plantings are irregular, and apple trees are often interplanted with grapevines.

The packing of this fruit is the best to be found in Europe. The fruit is packed in 50-pound boxes. Various Italian packages are shown in Figure 8. The fruit takes on an excellent finish, and for

FIGURE 8.—Packages of Italian fruits. The extensive White Winter Colville apple is shown packed in cotton at the extreme left

fancy fruit-stand trade it surpasses barreled apples from the United States.

The Tyrolean apple industry has been comparatively stationary since the World War. New plantings are few, but the methods of handling orchards and packing the fruit are as good as before the war.

RUSSIA

Apples from Russian Crimea and Turkestan have increased in competitive influence in northern European markets since 1925. These producing districts, although the newest in the commercial apple world, are close to the area in which the apple is reputed to have originated, whence it was dispersed to the western world along with Greek and Roman civilization. At least three varieties have a close resemblance to three American varieties—Grimes Golden, Yellow Newtown, and White Pearmain.

The first post-war shipments made by the Soviet Government to markets in western Europe were nonstandard packages poorly packed. The fruit showed blemishes from disease and insect injury, and general lack of uniformity, although it gave evidence of native quality, being of clear color and having flashy reds. This attempt was of little competitive significance, but, year by year progress has been made. By 1927 the standard northwestern box of the United States had been adopted, an attractive lithographed label was used, and packing was improved to a point that made fair comparison with the output of many American packing houses.

Not only have grading and packing in these Russian territories improved, but exports have increased. It is estimated that between 200,000 and 250,000 boxes were exported from the 1927 crop, about 80,000 of which were placed in British markets, principally London. Consignments to Scandinavian markets were greater in proportion to the population and, selling for a lower price than American boxed apples, have resulted in serious competition during November and December. Since these districts seem to have admirable conditions for apple production and since packing methods have progressed more rapidly than in any other production area in Europe, the future of competition from them in European markets may have considerable importance.

Portugal

Portugese apples arrive in England during midsummer. The fruit is not of high quality, is packed in large cases containing about 100 pounds of fruit, sells at a low price, and does not offer any appreciable competition to American fruit. Conditions in Portugal do not point to any immediate change in the character of this competition.

SUPPLIES FROM OTHER COUNTRIES

The principal sources of apples, other than home-grown fruit, to be found in northern European markets are shown below in the order of their usual importance in the different seasons. It should be noted that the Netherlands, although a good market for fruit from the United States, is also a surplus-producing country.

Summer apples	Australia, New Zealand, Portugal, the Netherlands, France, United States.
Fall apples	United States, Canada, Austria, the Netherlands, France, Italy, Czechoslovakia, Switzerland, Rumania, Russia.
Winter apples	United States, Canada, Czechoslovakia, Switzerland, Italy, Russia, the Netherlands.
Spring apples	Australia, New Zealand, United States.

The most serious competition encountered by apples from the United States is that occurring during the fall and winter months. In Great Britain the most important competitors of apples from the United States are apples from English orchards and from Canada. In Dutch, German, and Scandinavian markets competition between apples from the United States and those from Canada is not so formidable, for the Jonathan from British Columbia is about the only Canadian apple that makes its appearance beyond the North Sea. But in these markets, large supplies from northern Italy,

Czechoslovakia, Switzerland, and the Netherlands compete with apples from the United States.

At one time, before the war, the shippers in the district then known as the "Austrian Tyrol," but now termed the "upper Adige" and "Trentino" in Italy, dominated the Scandinavian market. In recent years, however, boxed apples from the Pacific Northwest have taken first place. Peasant growers in Switzerland formerly found profitable markets in Germany, but they now complain that markets can not be found for their surplus apples. Large volumes of Czechoslovakian apples reach the northern German market; and the Dutch apple orchards, almost within sight of the thickly populated coal fields of Westphalia, find there a natural market. (Fig. 9.)

FIGURE 9.—EUROPEAN COMMERCIAL FRESH-FRUIT DISTRICTS

American fruit encounters widespread competition from European fruit-producing districts

CANADA

With respect to volume, quality, and season of production, Canada is first among the competitors of shippers of apples grown in the United States. Methods of producing, packing, and marketing apples in Canada are so similar to those employed in the United States that they will receive no comment here. A discussion of competition between the orchards of Canada and of the United States would be like a discussion of the competition between the States of New York and Virginia. Increases or decreases in production of Canadian orchards for foreign markets are likely to correspond with production trends in the United States, unless unforseen developments occur. Since geographical location and producing and

marketing methods are so similar, it is logical to conclude that the two countries will share any increase or decrease in European demand that may occur, making due allowance for variations hinging upon such factors as imperial preference and season of varieties.

Canada unquestionably does have advantage in British markets over the apple States of the United States by reason of its membership in the British Commonwealth of Nations. The proposal to spend large sums to popularize Dominion products with British consumers will react favorably upon Canadian orchardists. On the other hand, Canadian varieties of apples do not include varieties needed to fill all British demands late in the winter. Apples from several sources in the United States have a popularity with the consumer and possess merchandising merits that will make it difficult for Canadian competitors to dislodge them from their position of favor. This situation makes it all the more necessary for producers in the United States to strive to improve the standards of their export apples.

Australia and New Zealand

Apples from Australia arrive in England late in March, but because the shipments are small and the fruit is immature they usually do not offer severe competition until late April and May. The exportable crop from Australia and New Zealand varies from 2,000,000 to 3,000,000 bushels yearly and prevents high prices for American apples during the spring months. New Zealand apples are packed in boxes much as are the apples exported from the United States, but the Australian crop is packed in unlabeled, nonbulge boxes, under grading standards that do not compare favorably with the best packs from the United States. A small volume of very good American apples, in prime condition, will be absorbed in Great Britain during the spring and early summer months, despite supplies from Australia and New Zealand. The seasonal condition of supplies from the antipodes, however, will probably always govern the quantity taken.

PRODUCTION POSSIBILITIES IN EUROPE

The American grower and shipper should realize that there are many sections in the countries of continental Europe, from Portugal to Russia, including the Balkan States, in which climatic and soil conditions are practically ideal for apple and pear production. Up to the present time, however, various social and political circumstances have prevented the development of commercial orchards as they are known in America, and transporting and distributing facilities have not been developed or utilized in a way to make marketing profitable. But should there be a development toward modern practice in production, preparation for market, and storage, together with better distributing and transporting facilities, the possibilities for apple production are such as to make the importation of apples from the United States on the present scale economically impossible.

It is not probable that the present generation of American apple growers need anticipate a curtailment of their European outlets as

a result of the expansion of commercial production in Europe, or the improvement of cultural practices, or the use of better marketing methods. But it seems likely that future European generations, at least in some favored districts, will gradually develop orchards to replace the present meadow and garden culture of the peasants. If any such development occurs it would be felt first by the barreled-apple districts of the United States. Until the time that European demands for American boxed apples or for very high-grade barreled apples are affected by the production of its own orchards, an increase in European imports of American fruit can confidently be expected.

SPECIALIZED DEMANDS IN EUROPEAN MARKETS

A close knowledge of the special requirements as to season, sizes, and varieties is of the utmost importance to those who market apples in Europe. The general opinion prevalent among American fruit men that Europe wants small apples and that in England only yellow apples are preferred is somewhat erroneous and frequently leads to difficulties. It is true that several European countries pay a premium for relatively small-sized dessert fruit, but for cooking apples higher prices are paid for the large sizes that are in greatest demand in the United States. For over 100 years English consumers have recognized the superior merits of the Yellow Newtown variety (including the Albemarle Pippin), but this does not mean that the demand extends to certain other yellow apples of small merit.

VARIETIES

In Great Britain, the Yellow Newtown (Albemarle Pippin) is the most popular American variety. Those apples that usually arrive in poor condition are unpopular. This applies to such varieties as Maiden Blush, Wagener, Grimes Golden, and Delicious. The last named, although not as popular as in America, principally on account of inferior quality in small sizes and the presence of overripe specimens, is making progress in Scotland, where higher prices are paid for the variety than in other British markets. The Grimes Golden is enjoyed in London and Liverpool when it arrives in good condition, but its condition on arrival is always uncertain. The Jonathan is always popular as long as it arrives in good condition. Of barreled apples, the York Imperial is popular all over England on account of its attractive appearance, good carrying quality, and low retail prices. New England's Baldwin and Golden Russet are also popular in all markets. For cooking purposes, the Rhode Island Greening stands in a class of its own and brings high prices when good English cooking apples are in short supply. Ben Davis is not specially liked in Great Britain, but it, and such kindred varieties as Gano and Black Ben, do best at Liverpool in answer to the Irish demand for large, red fruit. Stayman Winesap is not so well appreciated as it might be if it arrived in better condition. The Winesap is in demand during winter months, whether packed in boxes or barrels.

German and Dutch markets like red apples prior to the Christmas season, after which such varieties as Yellow Newtown are also ap-

preciated. During recent years the German trade has paid a premium for Ortley. The Scandinavian trade calls for apples that stand reshipping. To have an apple that will carry in good condition to the remote markets of the fishing communities, the demand has been established for Ben Davis in markets from Copenhagen northward.

SEASON OF DEMAND

The season of demand for apples from the United States varies in the several countries. Great Britain imports apples during every month of the year. Even when English orchards have crops the Gravenstein from California, Bonum and Jonathan from Virginia, Wealthy and McIntosh from New York and New England, and the Jonathan from the Pacific Northwest find sale in British markets. English orchards are in the south so that the keenest demand during the fall months is felt in the north of England and Scotland, when London and the southern markets may have but small demand for outside supplies. If the English crop is good, few culinary varieties are required before the month of December. The English demand is cut short by the arrival of the new crop from Australia and New Zealand during late March and early April.

Germany and the Netherlands have small demand for American apples before December 1, unless the domestic commercial crop and that of Switzerland, Czechoslovakia, and Italy are abnormally short. The season lasts until spring. A few dessert varieties from the Pacific Northwest are used as soon as they can be received.

Denmark accepts choice dessert varieties slightly earlier than does Germany, though volume is not absorbed until after December. Other Scandinavian countries absorb boxed apples as soon as they are on the market, but the season for barreled apples does not fully open until December; Norway's active season is delayed until the high import-duty period terminates, the date of which is fixed each season.

SIZE REQUIREMENTS

As some of the choicest English dessert varieties of apples do not normally grow to large size, and as it is the British custom to use apples as dessert, a strong demand for small sizes has been established in England. The most potent factor holding this demand in vogue, at present, is embodied in the retailers' practice of selling apples by the pound. A retailer can not sell large-sized apples without giving overweight, since charging for fractional parts is almost as impracticable as cutting the fruit. Consequently, he can afford to pay more for sizes that weigh out evenly than he can for large-sized fruit that does not. The reason that 163 and 200 sizes are so popular is that they weigh out evenly, four apples to the pound in the first instance and five apples to the pound in the second. In addition, the public has a general opinion that the flavor of small-sized apples is superior to the flavor of large ones.

It is commonly stated that 2¼-inch apples are wanted in barrels, but it is a fact that apples 2½ inches in diameter are the most popular. In barrels marked "2¼-inch minimum" so many of the apples are larger than the minimum that the trade has come to expect ap-

ples much larger than 2¼ inches and consider themselves defrauded when larger sizes are not included. The same applies to barrels marked "2-inch minimum." When all of the apples measure 2 inches, the impression is given that the fruit is much smaller than the description, and dissatisfaction reigns. Save with Winesap and Yellow Newtown, it seldom pays the American shipper to export 2-inch apples, and in packing they should be separated from those measuring 2¼ inches and larger.

Size demand varies within Great Britain, as London and the southern cities will pay higher prices for small sizes than will Liverpool and Glasgow. Although 163 and 175 are the most popular sizes in the northern markets, 175 to 216 are preferred in the south. Sizes smaller than 200 should rarely be shipped to Liverpool and Glasgow. Sizes as small as 234 and 252 should be shipped only to London and Southampton, and then only when those markets indicate strength. It pays to export these small sizes only when supplies of apples are short.

In the case of red varieties, such as Jonathan and Winesap, the northern markets ordinarily pay from 10 to 25 cents less per box for 200's than for 175's; 25 to 40 cents less for 216's; and from 50 to 60 cents less for 234's. In the case of Yellow Newton the differential is slightly greater between 175's and 200's, since this variety brings a premium in the preferred sizes of 163 and 175. (Sizes as large as 138 are sharply discriminated against, bringing from 25 to 50 cents below the smaller sizes.) In London and Southampton, 200's and 216's frequently sell for as much as 163's and 175's, although the average will show a differential of about a sixpence (12 cents) between each of the sizes—216's sell for from 25 to 50 cents less than do 175's.

Great Britain prefers that barreled apples to be used for cooking be relatively large in size. For this reason, varieties like Rhode Island Greening, Twenty Ounce, and Stark sell best when they are from 2¾ to 3 inches in diameter. Since the York Imperial and Baldwin are used for both cooking and dessert, close discrimination is not made in the sizes of these varieties, but it is common for 2¼-inch minimum to bring 50 to 75 cents less per barrel than the 2½-inch size.

The most popular sizes in the Dutch and German markets are 138's and 150's. The size demands in these markets are more nearly like those in the United States than are the size demands in other parts of Europe. In barreled apples 2½-inch apples are preferred to 2¼-inch. At Hamburg, sizes 125, 138, 150, and 163 frequently sell at the same price. Between 163's and 216's there is a difference of from 35 cents to 50 cents per box, and 234's take a depreciation as great as 75 cents.

Scandinavian markets show a preference for the smaller sizes. They parallel demands in Great Britain as regards boxed apples, but discriminate against fruit that is greater in diameter than 2¾ inches, if packed in barrels. Present methods of marking barrels with minimum sizes are very unsatisfactory in these markets. Too many apples are sold as "2¼-inch minimum," and when opened are found to consist mostly of 3-inch apples, which are wholly unsatisfactory for the trade. (Table 4.)

TABLE 4.—*Size preferences for apples in European markets.*

Market	Boxed apples	Barreled apples for—		Market	Boxed apples	Barreled apples for—	
		Cooking	Dessert			Cooking	Dessert
	Size	*Inches*	*Inches*		*Size*	*Inches*	*Inches*
Glasgow	150–175	2½–3	2¼	Rotterdam	138–163	2½–3	2¼–2¾
Liverpool	163–175	2½–3	2½	Hamburg	138–163	2½–3	2¼–2¾
Manchester	163–175	2½–3	2½	Copenhagen	150–200	2¼–2¾	2¼–2¾
London	175–216	2½–3	2¼–2¾	Norway	150–200	2¼–2¾	2¼–2¾
Southampton	175–216	2½–3	2¼–2¾	Sweden	150–200	2¼–2¾	2¼–2¾
Hull	163–200	2½–3	2¼–2¾				

PACKING APPLES FOR EUROPEAN MARKETS

Apples packed for export are subject to more than twice the handling that is received by fruit in domestic trade. Figure 10 shows

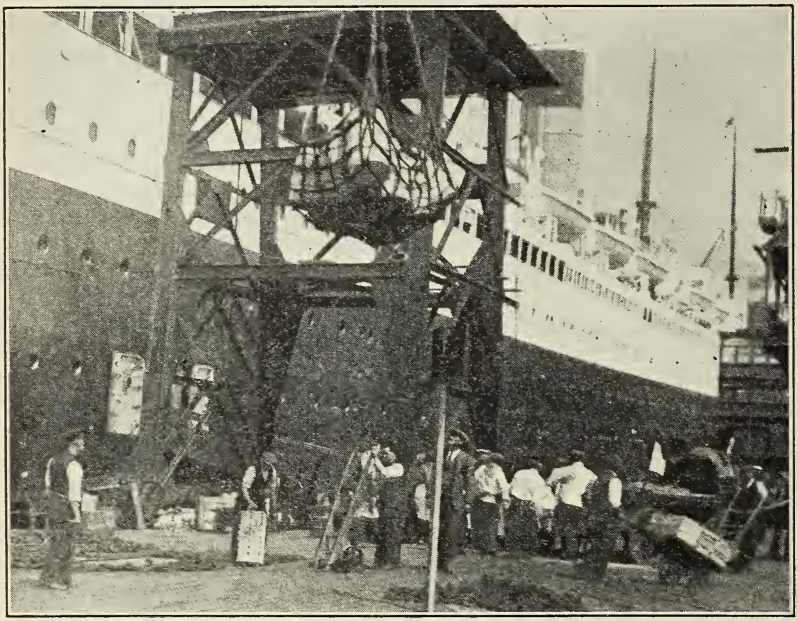

FIGURE 10.—Unloading American barreled apples from a large Atlantic liner at Southampton, England

only one of a possible 20 handlings accorded barreled apples between the orchard and the English retail shop. Much of this handling is done without the special equipment used in domestic distribution. Consequently, export shipments demand special attention to packing.

THE BARREL

Good cooperage stock is required. Weak, brittle staves, hoops that shatter easily, or softwood heads, are wholly unsatisfactory. Double-quarter or bilge hoops would prevent many barrels from going slack,

though these are not positively necessary if stout hoops are fastened securely in place well down on the bilge of the barrel. Steel-band or wire hoops are excellent for bilge hoops.

The chime hoops must be of the correct size, well made, and securely nailed in place. If the chime hoops are too small to drive down fair with the ends of the staves, the first time the barrel rubs against the deck of a lighter or swings against a hatch coaming, the top hoop will shatter; at the next handling the ends of the staves will be crumpled above the croze; then the head of the barrel is released. If the chime hoops are too large, the head is not held firmly seated in the croze and will be forced out before arrival at destination.

It is important to have thick liners that reach well around the chime, catching the ends of the head, and it is even more important to have the nails through the chime hoop catching both ends of each piece in the head. This requires the use of not less than eight 1¾-inch nails. When nailed in this manner, the top chime hoop may shatter, the head may slip out of the croze, but the second chime hoop and nails will hold the head in place. It is not advisable to use more than 10 or 12 nails, because excessive nailing adds little to the security of the head and results in destruction of the top in making inspection. This is very undesirable.

The cooper usually places but one nail in each bilge hoop to hold it in place till packing time. Possible shrinkage of the wood makes necessary the postponement of secure nailing until bilge hoops are pounded tight at packing time. Consequently, packers should never fail to perform this nailing, using four nails distributed about each hoop.

The barrels that arrive in Europe with the least breakage come from Nova Scotia and have hoops made from split birch saplings. This type of hoop does not shatter easily. No liners are used, but the head has secure nailing as described. Barrels shipped through the Port of New York must be stronger than the Nova Scotia barrels since lighterage from rail to ship calls for more handling than at Halifax.

Grading, Packing, and Marking

Most barreled apples sell on their merits when opened in the various auction salesrooms of Europe. After the apples leave the auction, the retail trade buy by inspection and take delivery according to the markings on the barrels. For this reason the standardized grading and marking of barrels is just as important in foreign as in domestic markets. At the present time too many high-grade apples are exported with only variety and size stenciled on the barrels. Some shippers use grade designations with the hope that such marks will add a psychological advantage to doubtful lots of fruit.

An Order in Council under the merchandise marks act of Great Britain requires that all packages of apples imported into Great Britain shall be marked as to country of origin in letters not less than one-half inch in height.

Most European markets prefer to have the range of sizes marked upon the barrel. Since certain outlets prefer medium or small sizes and certain other outlets prefer large sizes for cooking purposes, it

is just as unsatisfactory to have barrels marked "2¼-inch minimum" and containing mostly 2¾-inch apples as it is to have barrels of cooking apples marked "2½-inch minimum" when they contain only 2½-inch fruit, the inference being that 2½-inch minimum marks should include larger sizes. It is far better to grade and mark barrels "2¼-inch to 2¾-inch" or "2½-inch to 3-inch," or such other ranges as best describe the fruit. The Scandinavian trade is insistent on having size markings describe closely the size of the apples.

The facing of the barrel should give a good display appearance but should not consist of fruit so different from the run of the barrel as to cause a marked contrast. This applies to the size as well as to the appearance of the apples used for facing. If buyers detect a marked contrast between the contents and the top of the barrel, the suspicion of dishonest packing is aroused, and the packer is discriminated against. If 3-inch apples are used to face a barrel marked "2¼-inch minimum," which contains mostly 2¼-inch to 2½-inch fruit, the contrast is so great that the 2¼-inch apples appear smaller than they really are, and the fruit is done a double injustice. It is always advisable to use corrugated-paper facers with smooth surface toward the fruit.

Preventing Slack Barrels

Slack barrels usually sell from 35 cents to $1 each below the price of barrels that arrive tight. The causes of slack barrels are many, including softening, ripening, and shrinkage of the fruit; insufficient fruit in the barrels; poorly made barrels; and excessively rough handling.

Adequate racking of the barrels on a concrete or stone base during the period of filling is most important in preventing slacks. Too many packers attempt to prevent slacks by heavy pressing instead of by consistent racking prior to pressing. Apples will bridge one upon another so that pressing alone will not prevent slacks even though the press is used to the extent of making the juice run in each barrel. Apples broken by pressing tend to become soft, or to decay in transit, so that overpressed barrels may be expected to arrive with more slack than those well racked and well pressed.

The spreading of barrels when the quarter hoops break or slip out of place is responsible for countless slacks. Tough quarter hoops, securely fastened well down on the bilge of the barrel, are necessary. Too many are spaced only 3 or 4 inches from the chime hoops.

During warm fall months the shipment of apples in box cars and in common stowage on board ship causes excessive ripening, shrinkage, and slack barrels. Rough handling and dropping accentuate these conditions.

After barrels have been in storage they should be examined and, if found slack, they should be plugged with sound apples prior to export. Material other than apples is not wholly satisfactory for this purpose.

Shredded Oiled Paper

The use of shredded oiled paper is advantageous if varieties susceptible to scald are to be stored for late shipment. Barreled apples

that arrive in European markets free from scald bring from $1 to $2 per barrel more than apples seriously affected. Transportation to European markets is of a character to develop scald on apples withdrawn from storage to a much greater degree than would have been the case had the same apples been placed on domestic markets.

Many barrels have been received in Europe in which only a very few strands of paper have been placed. These few strips exert practically no control over scald. The buyers regard only the condition of the fruit and pay no attention to the presence of the paper. The use of paper for psychological reasons is a waste of money and will continue to be until the European trade generally understands that apples properly packed with shredded oiled paper have a merchandising advantage at times when scald is liable to make its appearance.

For these reasons, if late storage is contemplated, varieties that are susceptible to scald should be packed with not less than 1½ pounds of paper carrying from 18 to 20 per cent of oil.[3] Careful attention should be given to the quality and quantity of the paper and to its thorough distribution throughout the apples. When apples are packed in this manner, "Shredded oiled paper" should be plainly stenciled on the barrel head.

Labels and Stencils

Paper labels for barrels have a certain advertising advantage when a grower's packing is consistently reliable, but the character of the fruit and the packing is of far more importance. Seldom has the use of labels on barreled apples in export markets been marked with outstanding success since those packers who have had a volume great enough to make the use of a label practicable, have had too large a volume to secure the uniform run of fruit and uniform results in packing that are necessary to keep the brand well established in the buyer's favor.

A factor that has much more positive value is the practice of having barrels bright and stenciled uniformly in a neat and legible way. Good stenciling adds more to the merchandising value of the usual barrel than a label does over good stenciling. Many labels are torn off by inspectors when opening the barrels, whereas neat and uniform stenciling (instead of crayon or stamping) adds its businesslike touch to a barrel as long as the head stays with the barrel. This detail often removes an orchardist's fruit from the category of an "ordinary farm pack."

It is advisable to have stencils made in one circular piece to fit the barrel head. Stencils should have block letters and figures in type the size of 36-point gothic—one-half inch or larger, and should include the following: Grade designation, size description, variety, the phrase "Shredded oiled paper" (when used), packer's name and address (including United States of America), and the phrase "U. S. standard barrel."

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[3] Brooks, C., and Cooley, J. S. The control of apple scald with shredded oiled paper. U. S. Dept. Agr. Circ. 396, 4 p. 1926.

STANDARD BOX OF PACIFIC NORTHWEST

Since strapping or wiring has been universally adopted by exporters, little complaint is heard concerning this package save in continental markets, where complaints have been registered regarding bruising. Experiments in using corrugated cardboard on tops, bottoms, and sides have been successful. With sizes larger than 138, it is doubtful if this precaution will be wholly effective in preventing serious bruising, especially if reshipment on European railroads is necessary. However, the use of corrugated paper is recommended, especially with sizes 150 and larger. Various specialty containers, utilizing cubical cardboard fillers or paddings of wood wool or cotton, have not as yet proven practicable for large-scale operations, although there is a possibility of adaptation for a limited quantity of high-class fruit intended for an exclusive trade in the capital cities of Europe.

Tight Packing Essential

Despite frequent complaints against the bulge of the standard box of the Pacific coast, too many boxes are being exported with not enough bulge and are arriving in Europe in a slack condition. There is a marked preference for full boxes, and the danger from bruising is greater in boxes loosely packed than in those having an adequate bulge from firmly packed apples. Packing foremen need to pay special attention to the sizing, to the paper, and to the degree of firmness used by the packers who work with the small sizes. An excessive bulge, however, as it causes unnecessary bruising on the box press, does not offset the damage that may occur because of slighting of attention to these factors.

Combination Grades

When dessert apples are scarce, auction buyers bid up on attractive lots regardless of the grade designations; but when there are plenty of boxed apples on the British market and demand is slow, there is a tendency to relegate lots bearing the designation "Combination Extra Fancy and Fancy" to the price level of the Fancy grade. Therefore, although it is safe to grade the first shipments of varieties like Jonathan in this manner, all apples consigned in later shipments should be separated into the three grades.

Oiled Wraps

Oiled wraps are used with success except with the Yellow Newtown. This variety, when grown under some conditions, is so susceptible to scald that it requires paper having a heavy oil content. Great care should be given to the paper used for the Yellow Newtown.

Labels

All export boxes should carry attractive labels. The industry would profit by having fewer kinds of labels so that buyers might more readily associate quality with a familiar label. Infrequency in

appearance means that many good brands arrive in European markets with merits unrecognized. This would suggest that many small associations might consolidate exports under a single export brand.

The relabeling of boxes is a practice that is injurious to the owners of both brands. If he observes evidence of two labels on a box, the confidence of the prospective buyer is weakened as regards the bona fide position of the owner of the top label. The goods appear to be secondhand, or not suitable for the original brand. If fruit is sold for exportation under the new owner's brand, all evidence of the original label should be removed from the boxes. The same caution should be observed in connection with printed wraps.

BASKETS

The old-fashioned splint bushel basket is not a suitable package for export and should not be used. The tub-shaped basket is stronger and arrives in Great Britain in a satisfactory condition if the lids are securely fastened. It should not be used if the fruit is to be sent to ports where distant reshipping is likely to follow.

The expense of shipping three baskets from New York to the United Kingdom is $1.35, as compared with 90 cents for a barrel. During recent years this higher charge has not been compensated for by relatively higher returns for the apples in baskets. The only features favorable to the basket are (1) a refrigeration advantage for such tender varieties as Williams, Gravenstein, Wealthy, and Jonathan; and (2) the retail advantage that is expected to abide in a package that is smaller than the barrel. Up to the present time the popularity of the basket in Europe has not been indicated by a marked premium over prices on barreled apples, though it is possible that a preference may be built up for it by persistent use.

STANDARD BOXES OF MASSACHUSETTS

The standard boxes of Massachusetts are known in the British trade as "crates." If careful grading is done and if the fruit is wrapped in paper, apples packed in this type of box sell for slightly more than the same weight of fruit packed in barrels. The same grade of fruit packed without wraps ordinarily brings approximately one-third the price of a barrel.

The auction sale held in Liverpool September 20, 1926, will illustrate this. On that day, A grade Massachusetts Gravensteins, wrapped and packed in the standard Massachusetts box, sold for from $2.43 to $3.16 per box—mostly from $2.43 to $2.86; boxes of unwrapped fruit from the same district sold for from $2.25 to $2.37; an unclassified barrel of Gravensteins from the same State sold for $6.57.

For early varieties from New England, the flat box makes a satisfactory package; but for the harder, late varieties, such as Baldwin and Ben Davis, results observed in European markets do not encourage its use in place of the barrel.

APPLICATION OF REFRIGERATION TO EUROPEAN APPLE MARKETING

Refrigeration in transit and storage is responsible for a great portion of our present overseas apple market. It has allowed the American apple owner to supply European markets with apples from January until May, when fruit from European orchards is not available in adequate volume. Cold storage within the United States has already played a great part, but the use of refrigeration in transit and for preserving surplus supplies at European points still calls for extension.

NEED OF ATTENTION TO PRESENT METHODS

The removal of heat from the fruit immediately after picking is of the utmost importance for successful marketing abroad. Unless a maximum of vitality is conserved from the outset, apples are almost certain to arrive at those distant markets in a condition that requires immediate disposal. The European representative is then left no margin for the exertion of his market intelligence and judgment. He is in the buyers' hands. If he has fruit that is hard and full of life he may postpone sale, utilize local cold storage, or transship to a stronger market, and thereby present an independence that is always strengthening to any market.

The vast quantities of apples from the United States that have arrived and are arriving in Europe in the last stages of ripeness have deprived most of the distributing trade of confidence in cold storage and have caused the trade to dispose of all arrivals as quickly after discharge as possible. Without better conservation in transit and without a history of the fruit at their disposal, European distributors are using good judgment, in the majority of cases, in making rapid disposition of apple consignments.

COOLING BARRELED APPLES PRIOR TO EXPORT

The great part of our barreled apples exported prior to January 1 are given no refrigeration. During September and October, arrivals in Europe suffer serious losses from this neglect. When hundreds of carloads of apples are arriving each week at New York in box cars, hot out of the Virginia orchards where summer temperatures still prevail; and when these heated apples are placed in common stowage on vessels that are to take a 48-hour plunge through a 70° to 80° F. Gulf Stream, the reports of "overheated," "cooked," and "deteriorated" arrivals in European markets can readily be understood. This character of shipping also prematurely ripens the cooler fruit from northern districts, as well as that which has been adequately cooled while traveling in iced refrigerator cars from the Pacific coast.

The amount of heat carried in the fruit at this season and under these circumstances makes it impossible for ship refrigerator chambers to cool the cargo and maintain the temperatures that are obtainable at other seasons. Even if ship refrigeration might overcome the handicap of excessive heat, the amount of refrigeration available in the north Atlantic trade is not great enough to accommodate the

heavy shipments at this season. It is necessary that many apples be carried in common stowage.

To improve these conditions the heat must be removed from the fruit prior to arrival at New York. During September and early October, the use of iced refrigerator cars instead of box cars or ventilated refrigerators should be a worth-while investment. All arrivals at New York that have been thus cooled should be stowed separate from hot arrivals. Shippers of boxed apples should avoid ships that carry warm cargoes by diverting export cars to northern ports during September and October.

RAILWAY PROTECTIVE SERVICE

Under American railway-tariff specifications fruits may be shipped over railways under the following services: (1) Standard refrigeration, (2) standard ventilation, or (3) common-car service. After October 15 until April 15, shipments are made either under (4) carriers' protective service, or under (5) shippers' protective service. During the latter period standard refrigeration may be used, but the shipper must take the risk of deterioration in transit.

STANDARD REFRIGERATION

For standard refrigeration the railways provide insulated refrigerator cars which are kept fully iced during transit. Cars are reiced at approximately 24-hour intervals. Under this service temperatures within the cars are usually kept between 40° and 50° F. During the cool weather of fall temperatures approximating 40° F. may be expected, whereas, if the weather is freezing, temperatures as low as 32° F. are not uncommon.

Orders or bills of lading should carry the specific statement "Under refrigeration" when this service is desired, and it should always be requested if the following varieties are placed in transcontinental shipments for export destination: Winter Banana, Wealthy, Grimes Golden, Jonathan, Delicious, McIntosh, Stayman Winesap, Rome Beauty, and Esopus Spitzenberg. When these varieties are shipped standard refrigeration should be used after October 15.

STANDARD VENTILATION

Under standard ventilation service the fruit is loaded into insulated refrigerator cars without ice. The railway company undertakes, without extra charge, to close the ice hatches when the weather turns cold and to keep them open when there is no danger of freezing. This service is entirely unsuitable for transcontinental shipments of apples or pears for export. When October days are warm and the fruit is loaded under fairly high temperatures, the railway company closes the hatches when the cars pass through the Rocky Mountains during the nights when they should be open in order that the fruit load within the car might be cooled. During subsequent days, when passing through a season of Indian summer over the prairies or through the Eastern States, the railway companies open the hatches because the shipment has passed out of the danger of freezing. During these warm days the fruit

would be better protected were the hatches closed. Owing to these conditions, standard ventilation can not be expected to give satisfactory results with transcontinental shipments of fruit for export. When it is used, overripening and decay often take place before the shipment reaches New York.

COMMON-CAR SERVICE

Common-car service should never be used for transcontinental shipment of export apples.

CARRIERS' PROTECTIVE SERVICE

After October 15 the western railway companies undertake to protect perishable shipments against freezing. An extra charge is made for this service. The alternative of this service is shippers' protective service, in connection with which the railway company provides free transportation for the shipper's messenger or caretaker, and declares itself absolved from liability to claims, provided the company is not responsible for undue delay in the movement of the shipment.

Ordinarily October 15 is too early to stop using refrigeration. This is especially true in the case of pears and the softer varieties of apples. Carriers' protective service differs but little from standard ventilation until the time that it is necessary for the carrier to place heaters within the car as a precaution against extremely low temperatures. After November 1 "carriers' protective service" should be specified for the following varieties: Winesap, Yellow Newtown, and Arkansas Black. Other varieties should have been shipped before this date.

Transcontinental shipments made in late winter should be made under standard refrigeration. Owing to the possibility of warm weather it is dangerous to use carriers' protective service after March 1. The shipper must use his judgment in deciding upon the date when standard refrigeration is to be ordered. A variation in the severity of the winters causes this date to be later in some years than in others.

The hazards of shipment across the North American Continent during the winter months are much greater than they are during the fall and spring months, when standard refrigeration can be used. Even under carriers' protective service the severity of the weather often causes freezing in the bottom layer of the carload, whereas, in an endeavor to protect the car from freezing damage, such excessive heat is applied that the temperature at the top of the load may be 60° to 70° F. This, over a period of several days, results in excessive ripening at the top of the load, whereas in some cases the fruit at the bottom is freezing. On account of these conditions fruit should always be inspected at New York, since it is imprudent to export frozen or deteriorated fruit.

COLD STORAGE FOR FRUIT IN EUROPE

An abundance of cold-storage space is available for fruit storage in Europe, although small use has been made of it for that purpose. In Great Britain the total of cold-storage space is estimated at from

47,000,000 to 48,000,000 cubic feet. The approximate space available for fruit at the principal ports is as follows: Liverpool, 1,000,000 cubic feet; London, 600,000 cubic feet; Hull, 500,000 cubic feet; Southampton, 500,000 cubic feet; Glasgow, 500,000 cubic feet; Cardiff, 100,000 cubic feet; and Bristol, 100,000 cubic feet.

Cold-storage space is available at Rotterdam and Hamburg. At the latter point a warehouse is situated in the free port, making it possible to place fruit in cold storage without paying customs duty, and to hold it there to be sold to customers in Germany or in any of the neighboring countries.

Most cold storages inspected by the author have been found to be suitable for fruit storage if handled properly. Most European warehousemen have had limited experience with fruit and base their operations largely upon their own experience. Many warehousemen hold fruit rooms at 34° F., or higher. Few use stripping when they stack the boxes. Some pile barrels on end; others pile them on the bilge. Others do not allow customers within the storage chambers, but withdraw samples when inspection is requested.

These facts, together with the fact that practically no one on the European side has a close knowledge of the history of harvesting and handling, and the resultant reserve vitality in a given lot of fruit, are sufficient reasons for past failures and for a rather general prejudice in Europe against cold storage. Therefore, caution is required in utilizing European cold storage for American apples.

Shipments in refrigerator ships via the Panama Canal are tending to lessen the prejudice of European distributors against holding apples in cold storage after arrival. Conservation of keeping quality through the improvement in transit conditions has resulted in successful trials, and a new confidence is growing. Not only are brokers placing these arrivals in cold storage, but buyers are taking advantage of heavy supplies and low prices by placing speculative purchases in cold storage.

Suggestions on Using Cold Storage

American owners of apples should issue instructions for storage abroad only when they are certain that their European representatives are experienced enough to supervise operations satisfactorily. This refers to the choice of fruits suitable for storage; selection of storage facilities; supervision of requisite cold-storage service; and inspection during storage.

When ordering European brokers to place fruit in storage, explicit instructions should be given to have a temperature equivalent to 32° F. For continental markets this should be given as 0° C.

Many apples from the Pacific coast that are ordinarily held several months in common storage prior to export shipment could better be moved directly from the orchard to refrigerator ship during early October for cold storage at European points. Such varieties as Yellow Newtown, Winesap, Arkansas Black, and Rome Beauty could be handled advantageously in this way. This would conserve the keeping quality of the fruit and allow it to be placed on the market at the most favorable time during the winter or spring.

Many brokers believe the pressure of large supplies in European storages would cause a continuous market depression. This belief is

subject to change, as it has been changed in various American markets, where no jeopardy to the market is now caused by the local storage holdings when the fruit is in prime condition.

In arranging to store reserve stocks in European markets from early refrigerator ships, attention should be paid to segregation of sizes. Consignments to Southampton and London storages should consist largely of apples smaller than 175. At Hull, Liverpool, and Glasgow stored apples should be 150s to 175s, and at Hamburg and Rotterdam, 150s and 138s.

Owners of barreled apples should utilize cold storages within the United States. Better supervision and lower rates may be had in storages at shipping point, from which withdrawals may be made in ample time to meet export demands.

Cost of Cold Storage in Europe

The cost of cold storage in Europe has, for the most part, been so high as to be prohibitive to the American apple owner. Quoted rates in most European ports are usually 12 cents and 60 cents per month, respectively, for boxes and barrels. When 500 or more barrels are stored, a rate of 40 cents per month is made at some points. Added to this is a cartage charge which may be as high as 6 cents per box or 20 cents per barrel.

As considerable cold-storage space is now unused, large storage companies are now quoting much lower rates on large quantities. In some instances those quotations are as low as American storage rates. By unloading ships directly at the storage warehouses the cartage or handling charge may be reduced to a small item.

Refrigerated Shipment via the Panama Canal

The development of the Panama Canal route constitutes the greatest advance made in improving the condition of export-fruit deliveries during the past decade. Arrivals by "direct ships" are popular in all European markets. The even temperatures in refrigerated holds from the Pacific coast to point of destination have given boxed apples thus shipped a great advantage in freshness and keeping quality over those exposed to the changeable conditions on the overland-transatlantic route. This, and the economy of approximately 10 cents per box, made possible by the rates, have made the route popular and caused its tonnage to grow.

In 1927–28 the shipments of fresh fruit from the Pacific coast to Europe totaled about 54,000 tons as compared with 36,500 tons in 1923–24. In recent years apples have constituted about 85 per cent of this movement. Most of the increase in exports via the Panama Canal has been due to diversion from the overland route rather than to expansion in total exports of Pacific coast fruit to Europe. In 1923–24 less than one-fourth of the total boxed apples exported to Europe from the United States went by way of the canal while in 1927–28 over one-half of the total was shipped by that route.

The early objections to the heavy deliveries from these direct refrigerator ships have largely disappeared. A close study of prices in Great Britain over several years has shown that prices of leading

varieties of boxed apples have strengthened in more instances than they have weakened, concurrently with the discharge of cargoes from these ships. At present, buyers look forward to the arrival of these supplies, and this causes strong competitive buying. The sound condition of these arrivals gives a confidence to buyers which stimulates speculative buying when prices tend to drop.

Approaching arrival of heavy cargoes now have little or no psychological effect upon the fruit trade of Europe. The trade is now adjusted to the use of large refrigerator ships from New Zealand, Australia, and the Pacific coast. The quantities placed in a country like Great Britain or Germany over a given period and their relation to the demand are the factors that influence prices, rather than the arrival of any particular ships. Moreover the service offered via the Panama Canal route is gradually being adjusted to shipping requirement so that arrivals in Europe are better spaced than they were during the initial years of the service.

The service has been developed rapidly from a single line at its inauguration to eight lines employing refrigerator ships at the present time. The following ports are served: Glasgow, Liverpool, Southampton, London, Hull, Rotterdam, Bremen, Hamburg, Copenhagen, Oslo, Gothenburg, and Stockholm.

Two lines throw additional refrigerator ships into this service during the apple season, by taking ships out of the South American meat trade. As these ships are adapted to handling frozen cargoes, they are more satisfactory as carriers of cargoes that have been previously cooled than they are for warm fruit. As the apples from the Pacific Northwest are fairly well cooled by the time these ships are placed in berth for loading, the ships have given, on the whole, a satisfactory performance.

IMPROVEMENTS SUGGESTED FOR THE PANAMA CANAL SERVICE

Shipments of early varieties during August and September via the Panama Canal should be precooled either in iced refrigerator cars or in cold-storage plants. Pears also require this preparation. Precooled apples and pears should be stowed in chambers separated from those carrying warm fruit.

A heavier movement of late varieties of apples during October and early November, with arrangements in Europe for cold storage upon arrival, would result in a further improvement in condition at destination. This would reduce the period in common storage to a few days and replace this period of deterioration by cold-storage conditions on board ship.

EXPORT AGENCIES AND METHODS

The channels of export marketing are more restricted than are the channels of fruit marketing within the United States. The trade was begun by, and still is largely in the hands of European fruit merchants who have reached out to all parts of the earth for a continuous supply of fresh fruits. Early trade began with subtropical fruits from the Azores, the Canary Islands, and countries bordering the Mediterranean.

For the most part this business, in Europe, has been conducted by interests which are separate from the wholesale fruit merchants. The supplies of imported fruit are held by the importing salesmen for the competitive bids of the wholesale merchants who carry continuous stocks of fruit to meet the demand of the retail trade. During recent years the wholesale merchants have gone to America to secure their independent supplies of apples. Even chain-store retailers are now engaging in the import business. However, the European fruit broker or salesman is still the greatest factor in the movement of our large volumes of export fruit.

Save in a few instances, neither the producers of the United States nor their domestic marketing agents have taken the initiative in developing foreign markets. The American agents of some European fruit brokers, having made direct contacts with growers in exporting districts, are now relied upon by growers and country shippers to represent their interests abroad and have, in recent years, played an important part in bettering fruit transportation and distribution in export trade.

The important parts that the producer in the United States has taken in the foreign-market development are in the production and packing of fruit that meets a ready demand, and in his willingness to ship fruit to Europe on consignment and thereby assume the final margin of speculative risk. By assuming the risk of distant marketing he has been able to send large volumes of fruit abroad, there to be sold at prices that enable it to reach the smallest retailers and enter into widest possible consumption. Assuming such risks have been no small burden, since it has periodically meant very poor returns for exported fruit to a very large number of growers. In many years growers who have consigned fruit abroad during periods of excessive shipments have, by reason of very low or no returns, practically donated such consignments to the cause of increasing consumption in European countries.

THE EUROPEAN FRUIT BROKER

Except in Norway, Sweden, and the London area in England, Europe receives its fruit on consignment. The European fruit broker, a merchant who sells large volumes of fruit by auction, or by private treaty, or by both methods, induces consignments by advancing funds (sometimes guaranteeing minimum returns), by prepaying freight and shipping costs, and by employing every means to make marketing abroad a simple matter to the owner of apples.

These merchants are interested in handling importations of oranges from Spain and Palestine; lemons from Spain and Italy; grapes and melons from Spain; onions from Egypt and Spain; apples, pears, grapes, and oranges from Australia and New Zealand; apples and pears from Canada; deciduous and citrus fruits from South Africa; and other fruits from world-wide sources.

The facilities of the European fruit brokers vary greatly. If a broker sells at auction in an exchange, as in Liverpool or Hamburg, he may have practically no warehouse facilities other than the public quay sheds (devoted principally to fruit handling during the entire year) or public cold-storage warehouses. If he is a private-treaty salesman in London he may have extensive warehouse space with a

fleet of trucks for transporting fruit. In any case he must have an adequate accounting office, financial support, and qualified fruit salesmen, superintendents, and inspectors.

One of the most important departments of a successful fruit broker's organization is that made up of shipping-point agents, who keep the required volume of all kinds of fruit arriving from producing districts. It is this department in the organization of the European fruit broker with which the American grower and shipper comes in contact. It takes an important part in the assembling of apples for export from the United States.

EXPORT AGENCIES

Although many European fruit brokers establish direct contact with large growers or with local apple shippers, it has been customary for the larger brokers to have their general American agents in New York City. These agencies establish branch connections in the principal producing districts. In some instances operations in Canada are directed by this general agency.

A general agency in New York is usually an American firm which specializes in export shipments. This firm, in turn, may be the American representative of fruit brokers in a number of European ports. By means of information received from the several outlets, they direct the flow of consignments passing through their hands to the quarter that promises the best prices.

EXPANSION IN EUROPEAN DISTRIBUTING SERVICES

Before the war of 1914–1918, most of the European fruit brokers were interested solely in securing consignments for their individual houses and worked in a rather provincial way. It has since been recognized that American shippers demand flexibility in distribution, particularly in a country like Great Britain. As a result the formation of several combinations of brokers has taken place. They offer a general distributing service. Some of these combinations include houses in the Netherlands and Germany, as well as in Great Britain. This wider service appeals to growers and reduces the cost of securing consignments, which, in itself, is a marketing economy.

When American markets are attractive the grower or shipper is reluctant to risk consigning to European markets. At these periods it is not uncommon for the American agents, either for their own account or that of their overseas correspondents, to make outright purchases either in the eastern markets or in the producing districts. The smaller sizes in cars of boxed apples sold at auction at New York City go through the hands of American agents who are continually on the lookout for suitable export stock. Some European brokers maintain that they never buy for their own account: but those who, during some seasons, do not make purchases, either directly or through affiliated interests, are few in number. Most brokers would prefer not to buy if they could secure adequate quantities on consignment, and they do not consider buying their regular form of business. The industry has not reached a stage at which growers can

insist that European brokers abstain from purchasing a portion of their supplies in American markets. If goods are sold openly at auction the disadvantages resulting from the fact that the auction brokers have a financial interest in a portion of them are not considered serious.

SOLICITING CONSIGNMENTS IN EASTERN DISTRICTS

In Virginia, West Virginia, Maryland, and Pennsylvania apple districts the New York agency customarily has local shipping-point agents who canvass the growers in their districts for consignments. In some isolated points these subagents are themselves growers. These subagents look after the details of assembling and billing carloads and advise the New York agents of all details of manifest, probable movement, etc. They receive their remuneration from the New York agent on the basis of split commission. In other instances local subagents are buyer shippers who make outright purchases from growers and cause apples to be packed under their own brands, and consigned overseas for their own accounts; or they may solicit consignments. Certain New York agents and European brokers employ salaried representatives in the producing districts. Their purpose is to keep their respective organizations fully advised on conditions throughout the country and to keep local subagencies in good working shape.

Somewhat similar methods are used in assembling barreled apples for export from the Hudson River Valley and New England districts, though the volume forwarded does not warrant so much organization for soliciting consignments. In western New York little tonnage is received for consignment from the growers themselves. During recent years most of the consignments from this district have come from local buyers, and they have been few. The tendency is toward the outright sale of fruit for this movement.

ASSEMBLING BOXED APPLES

The assembling of export supplies of barreled apples by cooperative associations has made no headway, and the quantity thus assembled is insignificant. The opposite is true with respect to boxed apples. The most important single source of apples moving to Europe is a cooperative association in the Hood River Valley. This association has made a decided success of its export marketing by making its supplies dependable and by establishing its brand in European markets. It employs a New York agency, affiliated with organized European fruit brokers, to handle all of the details of its export distribution. In the State of Washington cooperative organizations also assemble cars of apples for export, though none have established their brands in European markets so successfully as has the organization in Oregon, owing to the fact that the quantities exported come from too many shippers.

The extensive development of shipments via the Panama Canal to Europe has had a marked influence on assembling boxed apples for export. European brokers have largely assumed the responsibility of booking the space on these ships, expecting to secure consignments

from local shippers. Several European brokers and their New York agencies have northwestern agents who operate on salary or on split commission. Some have even established packing houses and shipping and cold-storage warehouses in order to receive fruit direct from the northwestern grower.

By far the largest quantities are secured by exporting agents who establish seasonal relationships with the different northwestern agencies engaged in domestic marketing, or who appeal to them from time to time during the season for consignments of certain carloads of specified varieties, grades, and sizes. If a European broker has engaged steamship space and is unable to secure the necessary quantity on consignment, it follows that he must purchase supplies to fulfill his steamship commitments. These purchases, together with firm orders for shipment via the Panama Canal to the Netherlands, Germany, Norway, and Sweden are supplied by the various buyer shippers, cooperative associations, and marketing agencies engaged in assembling and shipping for the growers.

California apples are assembled in a manner somewhat similar. The movement of Gravensteins from Sebastopol shows a variation, in that probably a greater proportion is exported on order, or after purchase, by European fruit merchants, than is the case in any other apple district. Many of these, however, are bought after arrival in eastern markets.

As the apple growers on the Pacific coast are more dependent upon local organization in marketing their entire crop, they do not participate so directly in export marketing as do growers in some of the Atlantic States. The latter frequently load the cars, bill the fruit to their brokers in England, and receive the checks for returns directly from these brokers. On the Pacific coast this is seldom done by the grower; the business is handled by the local dealer who buys his fruit, or by the private or cooperative marketing agency employed to do his marketing.

PORT FORWARDING AGENCIES

Important among the factors that help to move fruit abroad are the services of the fruit-forwarding agencies at the American ports. These firms often have branches or correspondents at the principal Atlantic and Pacific ports and thereby give a comprehensive forwarding service to clients. Among their principal duties are the booking of space on steamers, tracing of cars for purposes of making steamer connections, ordering cars of fruit from rail to steamer, inspection of fruit as to suitability for export, strapping of boxes, taking out insurance, billing fruit on the ocean bill of lading, and overseeing stowage. In addition, they are often called upon by foreign buyers or brokers to handle their letters of credit at the American ports or shipping points for the payment for fruit and freights, or for the making of cash advances against direct consignments. The forwarding agent charges in accordance with the services rendered, though the principal part of his revenue is received as freight brokerage from the steamship companies that receive his business.

DISTRIBUTION IN GREAT BRITAIN

Apples shipped from the United States to Great Britain are discharged at the following ports: Liverpool, London, Glasgow, Southampton, Manchester, Hull, Cardiff, Bristol, and Newcastle-on-Tyne. Quantities taken by each are given in the Appendix on page 108. Liverpool predominates over all other European ports as a primary distributing point of American apples. London ranks second and Glasgow third.

The ports of discharge are the points at which the wholesale buying demand of Great Britain is concentrated. In most British cities the fruit and vegetable wholesale merchants are concentrated in a wholesale market. The character of this type of market is shown in Figure 11. To these merchants the retail trade comes each morn-

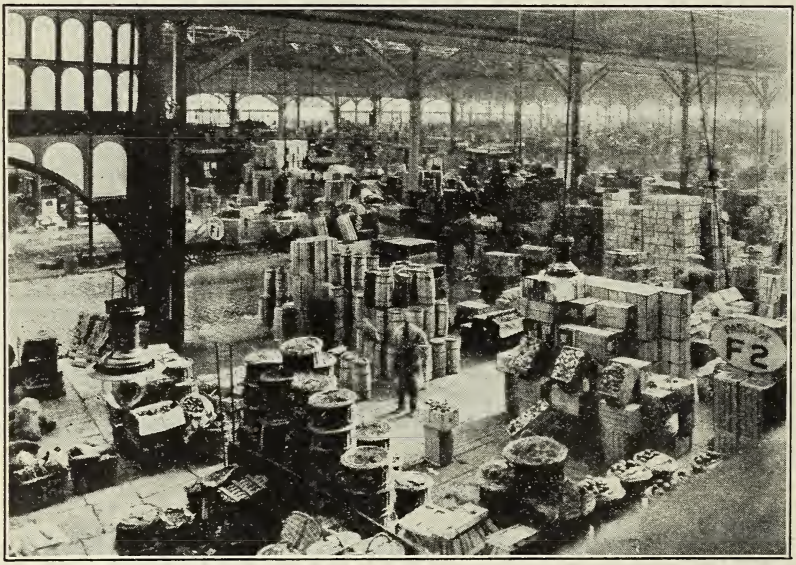

FIGURE 11.—Smithfield market, Manchester. Many European cities have these municipal markets in which wholesalers, who have warehouses near by, are leased definite areas for selling

ing with barrows, carts, and motor vans to carry away daily supplies of fresh fruits and vegetables. These wholesale merchants reach out to country districts for home-grown produce, but for imported fruit they look to the fruit broker, whose bases of operations are at the ports of discharge.

The wholesale merchant may go to the port market, inspect the apples at the time of discharge, and make his purchases; or he may delegate these duties to a resident agent at the port, who buys on a commission basis and supervises the forwarding of the supplies. Many a provincial wholesale fruit merchant has a member of his firm at the port markets buying supplies of apples, oranges, lemons, etc., from three to five days of the week. The distances are so short that these buyers can be at home each day. The larger provincial merchants watch prices in all port markets and promptly buy in those

ports at which transport costs allow them the best net values. This, to a certain extent, offsets the effect of oversupplies at one port and undersupplies at another.

In a few instances direct consignments are made from the United States to provincial wholesale merchants, but this scatters demand instead of concentrating it and has an effect on British markets that may be compared to that in American markets when shippers stop f. o. b. selling and begin to consign cars to the markets that would otherwise be in demand with shipping-point orders.

The British fruit wholesaler, upon arriving at the port market, may buy supplies at auction or by private treaty. Auction selling is explained in describing distribution through Liverpool (p. 40) and private-treaty selling in describing distribution through London (p. 46).

Some British wholesalers have developed a private import business by placing firm orders with New York exporters or with the original packers or shippers in the producing districts. This business is usually done by cable since there are a very limited number of agents in Great Britain to represent American shippers for soliciting such orders. The business is usually done by the establishment of a letter of credit at an American bank, with quotation either on a c. i. f. or f. o. b. basis. This type of business is apparently on the increase since the margin between American f. o. b. quotations and local auction prices is great enough to tempt the wholesale buyer to speculate.

LIVERPOOL

Dock Facilities and Methods

Liverpool's docks are basins constructed along the Mersey River; those at which fruit cargoes arrive are slightly more than a mile from the fruit exchange. When a steamer has berthed the steamship company is obliged to discharge the cargo on the quay at the ship's side. Discharging usually starts immediately upon the ship's arrival in dock. Night working is common on ships that arrive from New York.

The consignee is responsible for removal of the fruit from the ship's side and for piling it on the quay. This is done by a master porter under rules and regulations of the Mersey Dock and Harbour Board. This service covers loading the barrels or boxes on trucks or bogies and stacking them in a suitable place on the quay, segregated as to consignee, whose mark is stenciled on each package. The master porter is not required to segregate the fruit by individual shippers, grades, varieties, sizes, and conditions. This is done by men employed by the importing broker.

Each auction broker and private-treaty man maintains a general dock superintendent for general supervision of handling of cargoes, with foremen at each discharging ship (the larger brokers have several ships discharging at one time), and the foreman has "selectors" who are familiar with marks and with piling. The quay for each ship is divided among the various fruit receivers, according to the space that each will require. The men under the master porter bring the packages from the slings at the ship's side, and the fruit

men indicate to the dock men where the barrels are to be piled. In the case of boxes the fruit men usually do the stacking themselves.

Auction Selling and Distribution

Liverpool serves the great industrial areas of the north of England, the midlands, Wales, and Ireland. Its central location makes it a possible gateway for fruit that may move as far north as Scotland or as far south as London, though this is done only at times of unequal supplies. Moreover, its claim of being the premier European point for the distribution of American fruit is specifically related to its facility for clearing and reshipping perishable cargoes.

Fruit importations at Liverpool are handled by seven auction brokers and several additional private-treaty salesmen. The volume

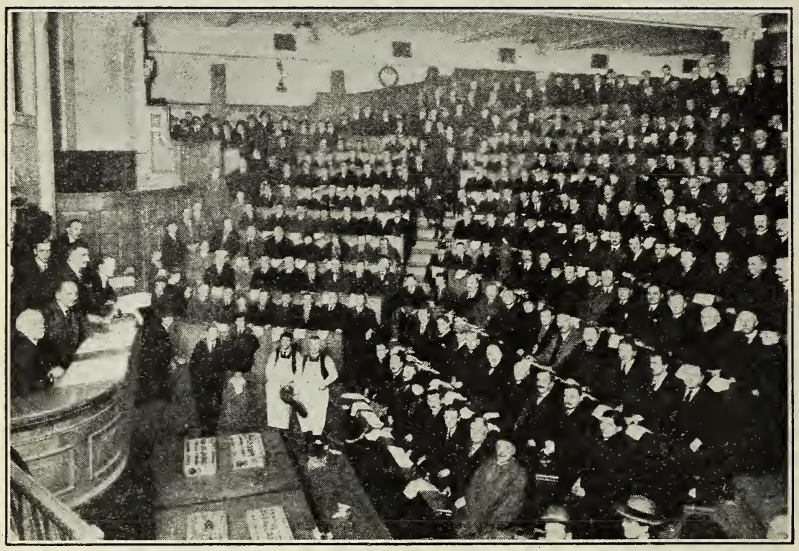

Figure 12.—Liverpool fruit auction. This room is used for selling apples, pears, grapefruit, and lemons. An adjacent salesroom is used for grapes and oranges

handled by the former is far more important than that sold by private treaty. All of the auction brokers sell in the 2-sale auditoriums of the new fruit exchange; the private-treaty brokers have private showrooms and warehouses in the same vicinity on Victoria Street.

Usually apples are sold in one auditorium and oranges in the other, but when arrivals are light, sales are concentrated in one room. (Fig. 12.) Buyers may step from one sale to the other and buy lines of oranges and apples or other fruits on the same sale day. Long-distance telephone lines come to booths in the salesroom so that buyers may speedily get in communication with distant clients. Five of the brokers have offices in the fruit-exchange building. These arrangements give Liverpool unexcelled auction-sale facilities.

The foreman of each broker has a manifest of the fruit that he is to receive, and he, in turn, divides his quay space so that he has an area for the large Virginian shipper who may have five or six carloads on a given ship, and smaller areas for the Hudson River Valley growers who may have 20 or 40 barrel lots. (Fig. 13.) In these small areas a separation is made as regards variety, size, and grade. Before the barrels are piled one of the fruit men taps each barrel on the head to determine whether it is "tight" or "slack," and a further subdivision is made in the segregations, separating slack from tight barrels. A record is also made of barrels "wet" or "slightly wet." Boxed apples arriving overripe are inspected, and a record is made for the catalogue of the number of decays found in those packages examined.

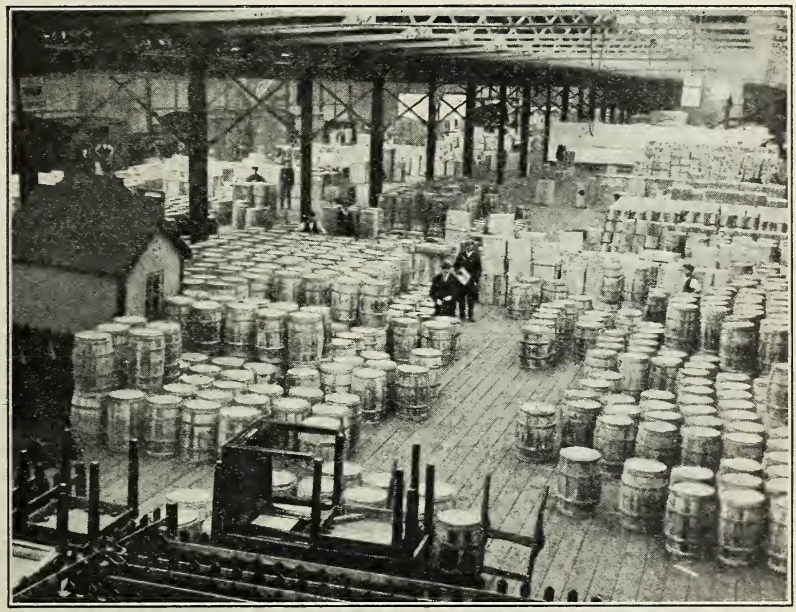

FIGURE 13.—American barreled apples sorted and awaiting sale in the quay shed at Southampton, England

As soon as the cargo is partially unloaded representatives of the buyers pass down the quay, opening any barrels in which they are interested. They get a rather close knowledge of the degree of slackness of the lots and of the condition of the fruit. Some of the slack barrels sell for only 6 pence (about 12 cents) less than tight barrels, and other slack barrels may sell for 4 shillings (about 96 cents) below the price realized by "tights" in the same lot.

When the cargo is discharged, each of the foremen of the auction brokers sends his "returns" to the head office, and from these the catalogues are printed, showing the marks on the barrels—"slacks," "tights," etc. Each carload is divided into lots of 30 barrels or 40 boxes when listed in the catalogues. The foreman has samples taken from each lot—two barrels each from the larger lots (30 or 50 bar-

rels) and one barrel each from smaller lots. Technically speaking, these are not samples but are "packages shown." They are packages which the brokers pick out from each lot and may not constitute a fair sample, although the brokers always try to select representative packages.

These samples are hauled to the basement of the auction salesroom, and are so arranged that, as the auctioneer sells each lot, two barrels are put on an elevator and sent up to the salesroom. One of the barrels is used for displaying the face; the contents of the other are poured out into a large shallow basket so that all buyers have a full view of the contents. Boxed apples are not usually emptied. Sales are made rapidly, or the lots are passed if in the opinion of the auctioneer the bidding does not reach the value of the fruit.

As soon as the lot is sold, the sample is sent below, and on the platform of a twin elevator another sample is shown. The samples are later sold at a slightly reduced price.

There is little or no delay between discharge and sale. Cargoes are sometimes held over one sale day, or until the following week, but, speaking generally, apples are sold as fast as they arrive regardless of quantity. Little stock is placed in cold storage to be held for periods of shorter supplies.

Liverpool sales are held Monday, Wednesday, and Friday, starting at 10.30 a. m., and lasting until the sale is finished. By a cooperative arrangement auction brokers sell by regular turn. Each has the auction stand for 25 minutes on his first turn, 20 minutes his second time, and 15 minutes the third.

The Liverpool auction is known as a "closed auction" since those attending are admitted by permit, and buying is restricted to those who belong to a buyers' association, membership to which is governed by a committee of buyers and brokers. Various arguments are offered against closed auction rooms, but where membership is as numerous and widespread as it is at Liverpool, objections are untenable. The fruit auction, and trading thereat, should be benefited by organized membership, since this concentrates and makes orderly competitive demand. Any potential buyer who does not have the regular privileges of the saleroom can readily buy there through members, and may be issued a day permit to attend the sale upon application to the association. Such attendance and buying is usual. The nonmember pays from 3 pence (6 cents) to 6 pence (12 cents) per package for buying services.

Members of the Liverpool Auction Buyers' Association living in provincial cities in northern and midland England often buy through a local member when unable to be present. Others have resident agents in Liverpool who attend to all duties of inspection, buying, acceptance, and forwarding.

As soon as sale is made an order for delivery on the master porter is issued to the buyer. One of the responsibilities of the auction broker is to effect delivery after the sale, as objections often arise as to the condition of certain lots, much as happens in making delivery of f. o. b. sales in the United States. Rules have been established for the control of these disputes. Differences of opinion over tight and slack barrels constitute one of the principal subjects

of dispute. As long as the designations on the packages agree with those catalogued, grades do not figure in these difficulties.

The auction broker usually remits the net proceeds within three days of the sale, although as far as he is concerned the transaction has not been completed until full collection has been made from all buyers—an important service he renders American shippers.

It frequently happens that buyers are in a hurry for delivery of fruit and buy lots at private treaty, or take delivery prior to the time of the auction with the understanding that the price will be fixed by values established at the subsequent auction sale. Private treaty salesmen also fix prices in relation to those realized at auction sales. It frequently happens that apples are discharged, catalogued, sold, and removed from the quay on the same day, and delivered to an inland buyer the following morning. In this respect, Liverpool has facilities for the orderly handling of enormous quantities in a very fast manner—a qualification of great moment in the distribution of fruit.

Wholesale Trade

Liverpool has its fruit wholesale merchants concentrated in an area removed from the fruit exchange. These distribute to the retail trade in Liverpool, and the country roundabout, and to Ireland. They maintain auction buyers and dock men, when their business warrants. With them as with the wholesale merchants at points like Manchester and Birmingham, the port auction sales are popular. This source of supply is preferred to receiving direct consignment because they buy only what they know their trade will take. This is preferred to f. o. b. buying in America, since they are certain of what they are receiving; they buy in the open market with their competitors; they receive supplies when they are wanted; and they are in a position to make large turnovers at reasonable margins.

The wholesale merchant removes the fruit from the quay without charge to broker or consignor. Some fruit moves directly from the quay to retail customers on previous order, but it is the usual practice among retailers to have delivery made to the wholesale store and then have their orders filled from stocks held there.

In case the purchaser at auction is an out-of-town wholesale merchant the fruit may move by truck or rail. If it moves by rail the carrier usually carts the goods direct to the premises of the wholesaler at an inclusive charge.

LONDON

London is the most cosmopolitan fruit market in the world. The British are a world-roaming people and have long been accustomed to look to foreign countries for food supplies. London has accordingly long offered an outlet for almost every food product of merit that can be landed in an edible condition. This trade has centered around Covent Garden market.

No less than 10,000,000 people are living within a radius of 50 miles of the center of London. Wealth has long been centered here, and fancy prices are paid for unusual fruits. It has been this buy-

ing power that made possible England's extensive glasshouse production as well as much of that in Belgium and the Netherlands. The buying power embodied in London's millions is of a different character from that found in the thickly populated areas about Manchester and Liverpool. The former is largely dependent upon the countinghouses and professions, and the latter is related to the industries. London's buying power does not have the extreme fluctuations that are immediately attendant upon waves of industrial prosperity and depression.

Wholesale Fruit Markets

Covent Garden is the best known, the largest, and the oldest of the four wholesale markets of London. The other three are the Monument or Pudding Lane market, Spitalfields market, and the Borough market.

Both the Monument and Borough markets are served by docks and are adjacent to rail connections. Spitalfields market is in the vicinity of rail trackage. Covent Garden is served neither by rail nor water; the haulage is by motor truck or wagon both to and from the market.

Covent Garden handles all fruits and flowers in volume and is the center of the Kingdom for fancy specialties. Spitalfields started as a potato and vegetable market but now handles all the fruits that commerce carries to the common people. The Monument market has been developed around Mediterranean fruits; it is a center for Spanish oranges, with side lines of dried fruits. Recently it has been coming to the front with many fresh fruits such as apples and grapes. The Borough market, on the south side of the Thames River, has been developed around both English and imported fruits.

Covent Garden Market

Covent Garden derives its name from an early convent whose garden occupied this space. The ecclesiastical thread has been carried down to the present by the later establishment of the parish of St. Paul, whose edifice stands to-day, with its peaceful burying ground, surrounded by the bustle of activities associated with the principal wholesale-market center of a world metropolis. The establishment of the church came with the Crown grant of the land to the Duke of Bedford, which grant and subsequent leases by the duke carried with them the exclusive marketing privileges for a given area, at that time removed from London but now in the heart of the metropolitan area.

Covent Garden in its present form represents a strenuous endeavor to do a twentieth-century business with eighteenth-century facilities. It has grown step by step from the time when English farmers brought in their products for Westminster's greengrocers and housewives, until now the trading area has spread over many blocks outside the original open trading court, with the result that the trading in Covent Garden represents but a fraction of the distribution carried on in the Covent Garden district.

Broadly speaking, Covent Garden is characterized by two types of distribution. To the original court, which is now largely covered

with various types of buildings used for stalls (fig. 14), and to closely adjacent property, the greengrocers, fruiterers, florists, and in some instances, consumers, still come for their early-morning buying. Each morning before 7 o'clock they bring their barrows, carts, and trucks and park them in the streets leading into the market from every direction. Each buys his cabbages, potatoes, apples, or flowers, and tells the wholesale dealer where his conveyance is parked. A porter takes the box, bag, or basket on his head, on his back, or in his barrow, to the designated spot. Then the retailer makes off with his daily supplies before the thoroughfares are crowded and in time to open his shop. Porters are provided by the Covent Garden Market Corporation, a syndicate now holding the lease and having the right by charter to charge tolls for use of the market and porterage on all produce that moves through the market.

FIGURE 14.—Covent Garden market, London. A scene in the most cosmopolitan fruit market in the world

The men who early took their places in this court as representatives of the English farmers and whose descendants and sucessors are now the commission merchants and importers, soon found that they needed warehouses to hold supplies for their early morning trade. Property in the direction of Long Acre Street, and beyond, was acquired, and now a large district is given over to warehousing.

Gradually a new phase of distribution took form. These men developed a business which supplied their neighbors as well as retailers and reached out to foreign countries for new and larger supplies. Many now have their major interests in supplying the smaller wholesalers in London and the provincial cities. This business is centered between Covent Garden and Long Acre Street. It starts each day

after the pulse of the smaller trade begins to weaken, and remains active until about 4 in the afternoon.

At present the first trade described is mostly of a merchandising character, and the latter is a commission business. Both types and characters merge, especially when English-grown produce is being handled, and there are no closely drawn lines, as many merchants engage in both activities.

Covent Garden is commonly known as a private-treaty market. Firms doing business in this area haul the fruits they handle, by truck, from the docks or railway yards to their warehouses. Samples are shown in the front of their stores, as is common with all commission merchants. Buyers go from one merchant to another, and values are established by the "feel of the market." It is suspected that this indescribable "feel" is essentially the consciousness of excessive or scanty supplies on the part of the merchants, and of the prices paid by themselves or by their next-door neighbors on the part of the buyers, and that this "feel" is accentuated in all of the talk that attends the bargaining.

When supplies are short prices paid in Covent Garden are very high, but if there are oversupplies in many faltering hands, prices sink to correspondingly low levels. No doubt private-treaty trading accentuates the feeling that supplies are short; but when supplies are filling every warehouse this impression also has its telling effect upon visiting buyers, especially when selling slows down to the point at which salesmen are tempted to cut the price in order to move goods.

The private-treaty salesman, having the fruit consignments in his own warehouses, is in a position to hold back from selling and to await a rise in the market, provided the fruit is sound enough to hold and that consignments on the road are not to arrive to overflow his capacity. The small private-treaty salesman can sell to retailers and hotels and thus receive higher prices, but the large operator can not depend upon this small-lot outlet, but must sell larger quantities to the same wholesalers who buy at auction.

Private-treaty selling tends to be more sluggish in finding values than is the large auction center which acts as a clearing house. Usually, the latter sets the prices for private-treaty trading, though the private-treaty salesman may hold his prices a little higher at times of short supplies or cut beneath the auction prices when oversupplied. Thus a healthier general market situation is maintained if a large private-treaty market, such as Covent Garden, is kept slightly under supplied and if the surpluses are cleared through the auction centers.

Many private-treaty sales are made to country customers over the telephone. A large number of dealers from the provincial cities make a practice of visiting London once a week for fancy fruits and while there make the rounds, picking up bargains or much-needed supplies. As soon as a sale is consummated deliveries are made from stocks in adjacent warehouses; carriage of large lots is effected by trucks or by trucks and rail.

The auctions in Covent Garden are held in Floral Hall, originally a ballroom, which stands next door to the celebrated Covent Garden Opera House. This hall early became a center for imported fruits.

To dispose of their imported perishables rapidly, all merchants were accustomed to conduct their auction sales in this building. Buyers would go from one sale to another; as many as half a dozen sales would proceed at the same time in the same room. This practice still persists to a certain extent, although some merchants have converted their spaces in the building to trading areas and show places for private-treaty sales; others use these auction facilities only for moving lots that demand immediate disposal.

Although it is being encroached upon by the development of other markets in London and outside points, Covent Garden still maintains a major position in London distribution. It should be regarded by American producers as a large merchandising center with capable salesmen who are to be furnished with supplies in the most economical manner possible.

Monument market.—Proximity to the wharves on the Thames, together with the general character of its marketing activities, made the Monument market important for the distribution of perishables landed from the small steamers which came up the Thames from Mediterranean points, from the Azores, the Canary Islands, and the Channel Islands. It has also grown in popularity as a primary point of distribution of Spanish oranges and lemons. Its merchants now claim the sale of 80 per cent of the Spanish citrus fruit that comes to London. It handles a heavy proportion of the Jaffa oranges, many grapes, apples from the United States and Canada, and other fruits.

This market is the most important auction center in London. Four firms of brokers sell alternately in the same auction room, as in Glasgow, Liverpool, and Manchester; a fifth has private auction facilities in neighboring premises.

American apples discharged at the various docks of London are lightered to the sheds of near-by wharves. Samples are removed to the private showrooms of the brokers, situated in the immediate vicinity of the salesroom, and sales are conducted in the usual manner without showing samples in the salesroom at the time of the sale. Sale days vary with the arrival of cargoes. They are advertised to the trade throughout Great Britain.

As soon as the apples are sold they are delivered by truck to the railway tracks in case of sale to provincial trade, or to the premises of the wholesaler if he operates in London.

The advantages of the Monument market are the concentration of wholesale buying of goods offered for sale, and the saving of haulage through the congested West End district on goods not destined for ultimate sale in that district. As a point of primary distribution in the London area it can safely be used by American shippers. The heavy supplies of Spanish oranges insure a good audience of buyers, for wholesalers from all of the London markets as well as from provincial towns look to these sales for regular supplies of oranges.

SPITALFIELDS MARKET

The Spitalfields market has developed from a small trading center for vegetables to one of real importance for both vegetables and fruits. Many of the costermongers and greengrocers of the popu-

lous East End of London visit this market each morning for their daily supplies. The heart of the market is a steel-skylight structure wherein many wholesalers have their stalls. This building is owned by the London County Council. The market's growing business has caused wholesalers to secure warehouse facilities in adjacent premises, so that the market now reaches into several blocks. The London County Council has secured surrounding property and is greatly enlarging the market.

Most of the supplies of imported fruits handled by the wholesalers at Spitalfields are bought in markets such as Covent Garden, Monument, Borough, or outside points, but there are some merchants who receive consignments from foreign countries, and others who buy from sources outside the country. Some Covent Garden firms have branches in this market, finding an outlet for classes of goods that the discriminating trade in Covent Garden would not want.

Selling is done mostly by private treaty. Such auction sales as are held mostly represent the disposal of consignments that are larger than any one commission merchant can handle. They are held on the merchant's premises and are not an important feature to American shippers.

The Spitalfields market is significant to American producers only as a fast-developing jobbing center in a populous district which is facilitating the movement of fruits to consumers and thereby making greater outlets. As such it should not attract consignments but should stand on a merchandising basis.

BOROUGH MARKET

Borough market also caters to the populous East End of London. It is on the south side of the Thames, within easy reach of the wharves. Apples are lightered from the docks to the warehouses on the river side, from which they are sold, both by advertised auction and by private treaty. As far as the handling of American apples is concerned, only a few firms operate as primary distributors, and those do so through their private auction sales.

As the market is not distant from the Monument market, its position should make it share in the latter's claim to being the most favored primary distributing point in London. The limited quantity of supplies at the Borough market, however, does not bring the collective buying power of the Monument market, and this, together with the lack of centralization of effort and development, has caused this market to be overshadowed by its near neighbor.

Dock Facilities

Figure 15 shows that London is well supplied with docks. Most of these docks, however, are under the great disadvantage of being located at considerable distance from the markets. Those at which most of the apples are discharged are Surrey Commercial (S), Victoria and Albert (V), and Tilbury (X), 4, 7, and 23 miles, respectively, from Covent Garden.

Surrey Commercial is used largely for Nova Scotian fruit, and by some direct refrigerator ships from Pacific coast ports. Victoria and Albert is used for most of the arrivals direct from Pacific coast

ports. Tilbury is more used for Australian and New Zealand apples than for American. Many London consignments from New York are discharged at Southampton, about 80 miles to the southwest, and arrive in London by rail.

Most of the apples sold at auction in the Monument market are discharged from the ships to lighters and are carried to wharves not distant from the market (Fig. 15, B) where they may be inspected by prospective buyers. Lighters also carry apples to warehouses in the vicinity of the Borough market. Fruit being sold through Covent Garden is usually carted to the warehouses in the Covent Garden area. Little is sold " ex dock."

Improving Distribution of American Apples in London

A great economic saving can be made by limiting the consignments that go to Covent Garden. Not only will this eliminate carting and rehandling those supplies that are not actually required for wholesale distribution in this congested district, but price levels can be estab-

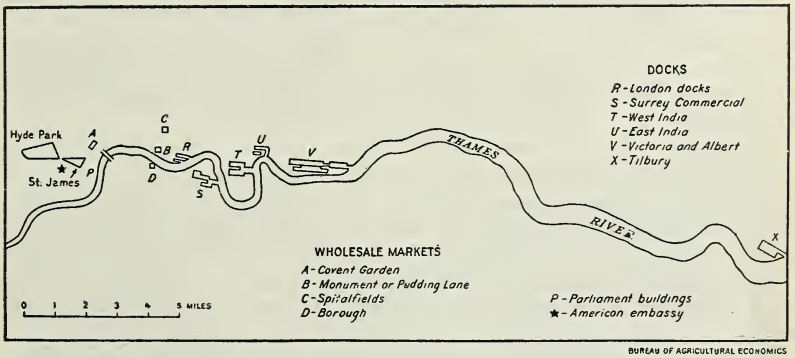

Figure 15.—Location of London's docks and markets. The distance between the docks where the imported fruit is unloaded and the wholesale markets is notable

lished more quickly by concentrating supplies at auction centers. Southampton and the Monument market are at present the logical points to concentrate consignments to attain this end.

Southampton has the advantage of being able to cater to the buying centers of the south of England and the midlands among which the market has established its popularity. In addition, it can always sell to London. The Monument market has the advantage of accessibility to many small job-lot buyers who do not buy directly from Southampton but who aggregate a tremendous demand for all grades of fruit. The centering of the orange trade at this spot is also a big factor in focusing buying demand.

Covent Garden could well be treated as a large merchandising center, just as Birmingham is used at the present time. The concentration of buying power at Southampton and in a single London auction salesroom would do much toward removing the sluggishness of the London market as well as toward eliminating much inefficiency that is now apparent.

GLASGOW

The second largest city in the British Isles and situated on the west coast of Scotland with a heavy New World commerce, Glasgow has come to be an important primary market for imported fruits. A large area of northern England and Ireland and all of Scotland draw upon this market for their imported fruits.

Glasgow has two auction salesrooms. The Central Commercial saleroom, fruit exchange, is owned by a private firm and used by four of the largest importing brokers. The City of Glasgow salesroom, situated in the Bazaar wholesale market, is used by four merchants who act as brokers. Both are open salesrooms and usually sell on Wednesday and Friday. Classification and selecting at the docks are done as at Liverpool, excepting that barreled apples are classified as "tights," "shakes," and "slacks."

In addition to the auction sales by brokers, Glasgow has secondary auction sales by the wholesale merchant to the retailer or hawker. These occur nearly every day in the wholesale market or Bazaar. Each merchant announces the start of his sale by the loudly ringing bell at his section. Such merchants usually have an auction stand and a small amphitheater of seats on their premises. This form of selling to retailers is not peculiar to Glasgow but occurs in nearly every large British city in which an inclosed wholesale market is maintained.

Glasgow auction brokers differ from those in Manchester, Liverpool, and Southampton in that they have stores and sell as wholesale merchants. Some buyers object to this, but it is not of concern to American producers unless it hinders concentrated buying at the auction sales.

Glasgow has excellent dock facilities between 1 and 2 miles from the market and is equipped to handle fruit in a very satisfactory way.

As it is so far north, the market is not greatly influenced by English and continental fruits so that the demand there is more brisk early in the fall than it is in markets farther south.

SOUTHAMPTON

The rise of Southampton's port to importance as a primary distributing point for fruit has resulted from making Southampton the London port for the large express liners sailing from New York City, and from the fact that it is the home port for fruit ships from South Africa. An adequate auction salesroom was constructed at Southampton during 1920; since that time its importance as a distributing point for American apples has grown steadily, and now its position is firmly established. This has been due to transportation services with America that surpass those of any other port in Europe; to port facilities that enable rapid discharge and delivery; to auction sales at the dock; and to railroad connections with points in its natural distributing area that facilitate the attendance of buyers at sales, and give most satisfactory delivery service.

Southampton is a city of 170,000 inhabitants, well situated on the "foot" of England, 80 miles from London and within buying reach of the midland cities. It is the only important deep-water

port in England where ships may come alongside piers and do not have to be locked into basins with the tide. Rail facilities are alongside the piers and sheds, and rapid delivery is made.

Railway service to London is excellent, and good connections are available to all points in Great Britain. The port also has convenient sailing connections with other European ports.

Southampton is handling increasing quantities of goods the destination of which is London, both on account of the longer time required for ships to pass up the Thames River to London, and because of the distance of the London docks from the center of the city. The steamship companies from New York make a through rate via Southampton to London, including transfer from ship to train and rail delivery. On apples, this amounts to 10 cents per box and 30 cents per barrel over the ocean rate. As this includes

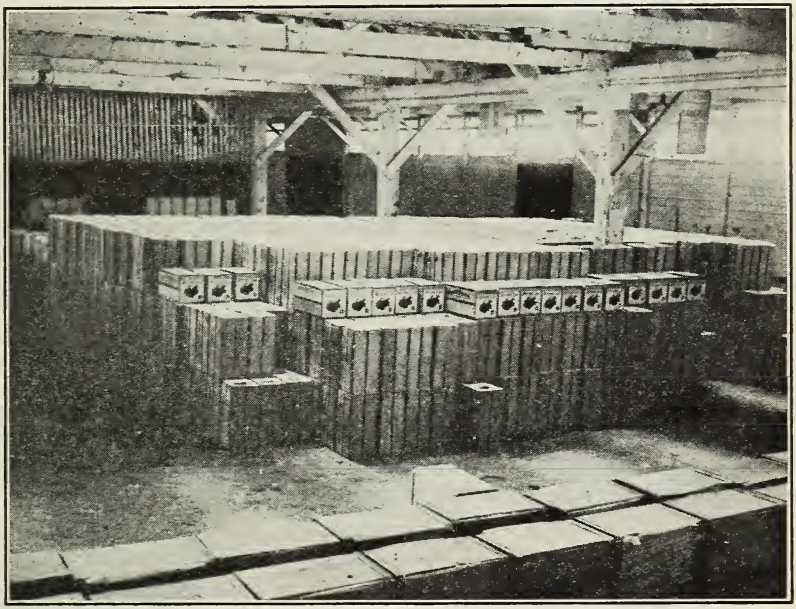

FIGURE 16.—Oranges from California and boxed apples from the Pacific Northwest, sorted and awaiting sale in the quay sheds at Southampton, England

the landing charges and dock dues, it is not more expensive than the all-water delivery. This through rate includes the privilege of diverting from Southampton if point of destination is changed during transit.

The principal distribution at Southampton is by auction. The auction salesroom is at one end of a quay shed. It is new and is well adapted to the trade. Fruit is sorted in the quay shed (fig. 16), and samples are displayed before the buyers at the time of sale of each lot. Selection and selling are similar to that at Glasgow, except that the Southampton auction is served by but one firm of auction brokers. The proximity of the salesroom to the quay sheds makes it one of the most convenient markets for auction buyers who wish to inspect goods prior to sales.

Another method of distribution through Southampton may be described as an allocation of consignments to wholesale merchants throughout Great Britain by a firm that has its head offices situated there. This method is adopted by a large cooperative association of British Columbia, which consigns its export fruit to the various ports of Great Britain upon advice from the Southampton firm. The latter has a selected list of commission merchants in all of the principal British markets. Prices are made in conference with the Southampton office to which the commission merchants look for their supplies. The Southampton firm charges a nominal fee per package for its services in addition to terminal commission charges, which together amount to considerably less than the cost of auction service. Since sales are largely made to the retail trade, it is claimed that this method of distribution is less costly than when sale is made at the port and again by the terminal commission merchant. Limited quantities might be handled to advantage in this manner, but if several scores of American shippers were to consign apples to terminal commission merchants without firmly controlling the total quantity shipped, chaos would follow.

Southampton also has its local wholesale trade that is a source of supply to the retail trade of the city and surrounding territory.

It is apparent that with wholesale fruit buyers in the midlands and south of England, Southampton has become a popular source of supply of American apples. Speed and lower cost of delivery are responsible for diverting demand from London to this port. These buyers secure most of their supplies from Southampton by commissioning a local agent to make their purchases. The London wholesalers now recognize Southampton as a regular source of supply for certain lines and are responsible for much of the buying power concentrated at this point.

From the viewpoint of the American shipper, Southampton may be favorably looked upon for apple distribution for much of the south of England, with the great London outlet always in the background as a regulator of values during periods of oversupply.

MANCHESTER

Manchester has a population of 730,000 within its limits and is in the center of a great industrial area which includes England's great cotton-manufacturing industry. More than 9,000,000 people live within a radius of 50 miles of Manchester.

Connected with the Mersey River by 35 miles of ship canal, Manchester has tidewater shipping with all ports of the world. Provincial fruit buyers like to use it since it is conveniently located for fruit merchants from such industrial cities as Birmingham, Sheffield, Leeds, and Bradford. They can attend sales personally at a minimum of time and expense.

In the past, Manchester has been active in the sale of barreled apples, especially those from Nova Scotia. It has not received proportionately heavy supplies of boxed apples. As a receiver of Mediterranean fruits, it ranks about equal to Glasgow.

Manchester has excellent dock facilities, situated about the same distance from the auction salesroom as are those of Liverpool or Glasgow. The Manchester Ship Canal Co. performs the labor of

landing, piling, and delivering fruit; the brokers oversee the sorting and delivery.

The principal primary distribution is by auction sale in the commercial salesroom at Deansgate. Three firms of auction brokers sell from sample for stated intervals before the same audience of buyers, as in other British ports. Sales are held regularly on Tuesday and Thursday, thus alternating with Liverpool, at which sale days are Monday, Wednesday, and Friday. Sales are limited to a buyer's association, as in the Liverpool auction.

Manchester's wholesale fruit and vegetable business is centered at Smithfield market. (Fig. 11.) This is a large inclosure with a steel and glass roof. It houses many of the leading commission merchants in their courts or stalls, many of whom have outside warehouses for surplus supplies. In the streets adjacent to Smithfield market other commission merchants have their stores. Some of these act as private-treaty salesmen for imported consignments. For the most part, the trade at Smithfield does a merchandising business, buying their supplies from auction brokers at the commercial salesroom, at Liverpool or at other port markets. To this center the retail trade of Manchester comes each morning for daily supplies, activities being similar to those at Covent Garden, London.

Although Liverpool serves the same general territory as does Manchester, an increase in direct shipments to Manchester will effect an economy in distribution. With the present coordinated relations between fruit brokers in the two cities, liberal consignments may be made to Manchester at a saving on transport costs without detrimental results as regards the scattering of demand.

HULL

Hull is a city of 400,000 people and is the second largest port on the east coast of England. A population of 2,500,000 resides within a radius of 50 miles. A population much larger than this has inland delivery charges from Hull on a parity with Liverpool. It is noted as an important distributing and shipping point for wool, grain, coal, timber, fruit, fish, and oil.

Hull is the natural distributing point for a large industrial area in the north of England, of soft fruits from the Continent, of which the Netherlands is by far the heaviest shipper, followed by Belgium. Hull is also one of the three British ports used for the distribution of West Indian bananas in Great Britain. As a point of distribution for Spanish oranges it ranks, among British ports, about equal to Manchester, only London and Liverpool ranking above it.

Dock facilities at Hull are entirely adequate. Apples arriving from the United States via the Panama Canal are discharged at the King George Dock, located about 5 miles from the center of the city. This is newly constructed, with excellent sheds, trackage, and cranes. Between this dock and the city is the Alexandra Dock, used by the New York steamers—a somewhat older shed that nevertheless serves adequately. Soft fruits from the Netherlands, Belgium, and France, and much of the citrus fruits from Spain, arrive and are discharged at the Riverside Quay, which is much nearer the Humber Street section where sales are held.

Hull has two auction salesrooms, the commercial auction rooms, and the colonial salesroom, in close proximity to each other on Humber Street. The first is used by three firms of fruit brokers, and the latter by one concern. The bulk of the apples from the United States are consigned and sold at auction by these four brokers. Other brokers make direct purchases in the United States at intervals.

Inspections are made on the quays by the buyers; samples are removed to the sample rooms adjoining the salesrooms and are exhibited prior to sale. Samples are also trucked into the salesrooms at the time of sale and briefly exhibited to the buyers. Sales are usually held on Monday and Thursday. In the commercial auction room the three brokerage firms take turns in selling to the same audience of buyers.

The work of receiving, piling, and delivering is done by the dockmen of the railroad companies, with the oversight of the dock representatives of the brokers. Cataloguing and selling are done in the way usual with British port auctions.

At present the port does not rank as high as a receiver of American apples as it does in the distribution of Mediterranean citrus fruits, because of the lack of adequate direct transportation from the United States. If it had regular and adequate shipments, Hull would draw buyers of apples from the iron and steel district about Sheffield and the industrial area of Leeds and Bradford, as it now does buyers of oranges and lemons.

Hull has good shipping facilities with the Scandinavian countries, and previous to the World War a substantial portion of its fruit trade was based upon orders from Norway, Sweden, and Denmark. At present this business is very slender. Direct buying in the United States by Scandinavian importers during the war started a practice which has continued ever since. It often happens that Scandinavian buyers can purchase apples from the United States in Hull at prices lower than the corresponding price and costs through New York, but the Scandinavian trade prefers direct-shipped fruit to that discharged in England. The loss of this trade has not caused any decrease in the total quantity of apples distributed through the port.

Since it is slightly cheaper at present to ship apples from New York to Scandinavian ports by taking advantage of the 30-cent rate between New York and Hull it might seem reasonable that this business would come back to Hull. Investigations in Scandinavian markets make this seem doubtful. Scandinavian importers feel that they have an assurance of better condition in fruit received directly from New York, and they continue to place orders there even though laid-down costs may at times be higher than they would be via Hull.

This port should receive supplies of apples sufficient to meet the requirements of the population that can be most economically served through it. This might draw supplies away from other port markets and tend to decentralize competitive demand, but when transportation costs make a given point a natural market the argument is in favor of the saving, providing transportation is such as to insure good condition of fruit upon arrival and providing outside demand is sufficient to move fluctuating quantities. Hull has reasonably good

shipping connections with American ports, and its distribution of oranges and continental fruits makes it a fruit-buying center.

NEWCASTLE-ON-TYNE

Newcastle-on-Tyne has long been identified with ocean shipping. Aside from shipbuilding, its population is dependent on the coal, iron, and steel industries. The city has a population of 275,000, and when taken with Gateshead, directly across the river, comprises a community of over 400,000. The numerous coal mines and affiliated industries in this section of the north of England make Newcastle the natural distributing point for several million people.

As at Hull, in the distribution of apples, transportation has been a ruling factor, and unsatisfactory shipping relations with American orchards have caused much of the territory adjacent to Newcastle, and even Newcastle itself, to draw on Glasgow, Liverpool, Manchester, and Hull for supplies of apples. Like Hull, it shares with other British ports in the direct importation of Mediterranean fruits, although it ranks last in this respect.

The wholesale fruit and vegetable trade is centralized at Green market. Several of the dealers who have stalls in the market own warehouse properties in adjacent territory. Some of the best wholesale houses are situated on St. Andrews Street, paralleling one side of Green market.

The wholesalers buy most of their supplies of American apples from Glasgow and Liverpool, although modest supplies, mostly of Maine and Canadian apples, are received from ships that sail direct from Montreal at intervals of 10 days. These, together with some small parcels reshipped from other ports, are sold by Newcastle brokers.

The lines between wholesaler and broker are not closely drawn in Newcastle. As is customary in many wholesale markets of Great Britain, there is much auctioneering by wholesalers to retailers. The vigorous ringing of a large bell outside his premises announces that a certain wholesaler is about to start auctioning.

Fruit is discharged on the quay at Tyne-side, possibly 1½ miles from the market, and in some instances the entire cargo is carried to the warehouses of the salesmen as fast as discharged. In other instances samples are removed, and auction sales are made from sample. Two of the leading brokers have their own salesrooms. One of these brokers also does a wholesale business and participates heavily in the Spanish orange distribution. Auctions are held as required by the discharge of cargoes.

Although transportation costs between Liverpool and Newcastle are 17 cents greater on barrels and 5 cents greater on boxes than they are between Glasgow and Newcastle, still Liverpool remains a popular port for barrel supplies. The service of Liverpool brokers and buyers for those not personally attending sales no doubt accounts for this.

Those apple districts of the United States that are able to ship via Montreal without additional inland freight charges, will make a saving of the freight charges from Liverpool to Newcastle (2 shillings, 10 pence, or 68 cents, on barrels; 1 shilling, 1 pence, or 26 cents, on

boxes), or from Glasgow to Newcastle (2 shillings, 1½ pence, or 51 cents, on barrels; 10½ pence, or 21 cents on boxes).

As in the instances of Hull, Bristol, and Cardiff, moderate supplies can be consigned directly to this market without seriously interfering with general distribution, but caution should be taken that these smaller markets are not overladen. Owing to the fact that Newcastle is dependent upon an industrial population, largely of coal and shipbuilding workers, it is not likely to be a top-priced market for high-grade fruit except during periods of prosperity. Its laborers are reputed to be good spenders at such times.

CARDIFF

Cardiff is a city of 230,000 people and is the most important shipping and distributing point of south Wales; it shares this business with Swansea and Newport. It is the greatest coal-shipping port in the world, and its prosperity, like the cities and towns that it serves, depends upon the state of the coal industry.

The principal fruit imports into Cardiff consist of Mediterranean citrus fruits. The port ranks considerably below Bristol in volume of oranges and lemons handled, but because it serves an industrial population of 4,000,000 to 5,000,000, in the mining districts, it is considered a better apple market than the latter city, which serves an area that produces apples.

The best of dock and harbor facilities have been provided at Cardiff, including sheds, hydraulic and electric cranes, electric warehouse trucks, cold storage, and trackage. The sheds devoted to handling fruit are roomy, light, and admirably adapted to the purpose.

The shipping service between New York and Cardiff is deficient in proper space for handling early apples or any fruit that has not the best of carrying qualities.

Cardiff's brokers have a new auction room. In addition, there are two importing brokers who have separate sales. The buyers have a strong organization the membership in which is limited to bona fide wholesale dealers.

Samples are selected at the dock, hauled to the city about 1½ miles distant, and displayed outside the salesrooms. No set rules obtain on samples, but usually one sample is taken for about 50 packages. Each broker has two men at the docks to attend to the sorting, but all handling is done by the dock men. Strict union regulations prevent the brokers from doing the dockers' work. One group of brokers classifies barreled apples as "tight", "slack", or "wet"; the other sorts as "tight", "slightly slack", "slack", or "wet."

Tuesday is Cardiff's principal auction day, but if a cargo is not discharged on time, or if the condition of the fruit prevents holding, special auctions are called on other days.

Cardiff takes from 8,000 to 13,000 cases of oranges each week, but its capacity for apples is not so great. It has taken as high as 7,000 barrels in one week, but from 3,000 to 6,000 is nearer its regular figure. This market wants colored apples, and it takes larger quantities of barreled than of boxed stocks. The mining population that it serves wants an attractive apple at a moderate price.

Moderate supplies of low-priced apples can be advantageously shipped direct to Cardiff. In that way the coal fields of Wales will be supplied as economically as possible. Owing to the proximity of Wales to Liverpool, only very modest consignments of boxed apples should be risked to this port, since the apple industry would profit by having this demand largely concentrated at Liverpool.

BRISTOL

Bristol, which now has a population of 400,000, and 2,500,000 people within a radius of 50 miles, was one of the first English ports to trade with the United States. American fruits have not been an important article of commerce through that port, but direct importations of apples are made from Canada and the United States. The receipts of barreled apples figure more prominently than do those of boxed fruit. Fruit from the Mediterranean ports has come to Bristol for a long time, and between 30 and 40 per cent of the West Indian and Central American bananas imported into Great Britain are discharged here. The good location of the port for distributing to southern England, and the special discharging machinery available have encouraged increasing use of Bristol as a fruit-distributing point.

Bristol has good dock and harbor facilities. Most of the apples from the United States are discharged at the Bristol docks, very close to the salesroom of the Bristol green-fruit auction. Canadian apples are discharged largely at Avonmouth, 6 miles from the center of the city. Here the corporation of Bristol has modern port facilities, with a full equipment of electric cranes, electric trucks, trackage, etc., that facilitate rapid and efficient handling. Bananas are also discharged at Avonmouth.

At Bristol apples from the United States and Canada are sold at auction to buyers of Bristol and the surrounding territory within a 50 to 75 mile radius. Four brokers receive and classify the fruit, as consigned to each, and do the selling. Although Monday is a favorite sale day an auction may be called on any day of the week except Saturday, to accommodate the arrival of cargoes. The condition of the fruit governs the brokers in calling a special auction.

Samples are withdrawn from various lots, usually about one sample for 50 packages, and these are shown in a room below the salesroom in Coopers Hall. A salesroom suitable for holding 100 to 125 buyers has been equipped and should be adequate for selling current receipts.

The buyers of Bristol have a strong association. This body governs the membership of those who may buy at the auctions. The intention is to limit the buying to bona fide wholesale dealers in the region of Bristol. The brokers have two members on a committee of six to consider the application for membership in the buyers' association. Apples are catalogued in the usual manner, and in the general practice of selling there are no unusual features.

The demand for apples in Bristol is more limited than it is in other ports in Great Britain and more limited than is the demand for citrus fruits. Cardiff tends to supply the demand from the industrial towns of the south of Wales, and to the south and east of Bristol is an agricultural area which not only would not buy as

many apples as an industrial section, but is supplied by the orchards of Devonshire and adjacent counties. When there is a good English crop few apples are required in Bristol.

During 1923 one firm discharged 4,000,000 bunches of bananas at Bristol, representing one-third of the banana imports of the United Kingdom. The operations of this company offer an object lesson to American apple producers who are interested in what can be done in systematic and economical distribution in foreign markets. By special conveying machinery the fruit is transferred from the holds of the ships to the railway cars on the quay in an efficient and economical way. A shipload of bananas arrives nearly every week, and the cargo is discharged in one day's time. Immediate dispatch is made to branch houses in all parts of the south of England.

PROVINCIAL MARKETS

Besides the port markets, which should be considered as ports of primary distribution, Great Britain has many other large city markets, such as Birmingham, with nearly 1,000,000 population; Sheffield, 490,000; Leeds, 458,000; Edinburgh, 420,000; Bradford, 285,000; Nottingham, 262,000; Stoke-on-Trent, 240,000; and Leicester, 234,000.

Few American apples are at present exported directly to these populous areas; yet all of these, and smaller cities as well, have their wholesale markets that supply the retail fruit trade.

At Smithfield market in Birmingham the municipality provides a steel-and-glass inclosed area where the wholesale dealers lease space. In streets adjacent to the market are their warehouses for reserve stocks, and the stores of wholesalers not provided with space in the market proper. The activity in such a market closely resembles that in Smithfield market, Manchester (fig. 8), Green market, Newcastle-on-Tyne, Spitalfields, and Covent Garden markets, London. They may be considered secondary markets, receiving their supplies of imported fruits from the primary points of distribution situated at the ports of discharge.

COMPARISON OF PORT AND PROVINCIAL MARKETS

The practice of consigning large quantities of apples to the port markets, there to be put up at auction and sold regardless of the quantity of fruit on the market, and with apparent disregard of the important provincial markets, has been severely criticized at various times. It is maintained that port markets are often glutted, while provincial markets are not overloaded and have price levels much above those of the ports. Such criticisms carry the argument that if only moderate percentages of the offerings at the ports were diverted to the inland markets the producers would receive an advantage through the higher price levels in the less adequately supplied secondary markets, and the action would strengthen the port markets so that higher prices would be realized on the remainder being sold there.

Those advocating the concentration of sales in the port markets defend present methods by saying that little or no advantage would be gained by diverting to provincial markets, and that such a pro-

cedure would dissipate the buying competition that now exists when buyers from all over England and Scotland meet at a few points to secure their supplies.

The question is one hinging upon the adequacy of supplies in the provincial markets and upon comparative price levels. To throw more light on these points, investigations were made in Birmingham, Sheffield, and Newcastle-on-Tyne from December 20, 1924, until March 14, 1925. Supplies in these cities were observed from time to time and prices each week on given varieties of American apples were compared with the auction prices at Liverpool.

Fluidity of Supplies

Th results of this study showed that supplies of apples are very fluid in Great Britain. When excessive consignments are received

Figure 17.—After the auction sale, Spanish and South African fruit in Southampton, England, ready for loading and dispatch in the railway cars standing on track in the quay shed

at the port markets, supplies for the provincial cities are quickly and easily adjusted. The wholesale houses of the interior markets have buying representatives in all of the port markets, and they secure desired varieties, grades, and sizes where the prices are most favorable, be it Glasgow, Liverpool, London, Southampton, Hull, Cardiff, or Bristol. Heavy supplies that are sold in the port markets one day are received in the provincial markets the following morning. (Fig. 17.)

Correspondence Between Provincial-Market Prices and Port Auction Values

The study of prices in these provincial markets showed that they followed the prices established at the port auctions. On pages 110 to 112 of the Appendix are shown weekly prices ruling in Birmingham,

Sheffield, and Newcastle-on-Tyne on Maine Baldwin, Virginia York Imperial, and Oregon Esopus Spitzenberg and Yellow Newtown apples, together with the Liverpool auction prices and the laid-down costs based thereon. The great variation in quality and condition renders fair comparisons difficult, but these price quotations make it apparent that margins of profit made by wholesale buyers in these markets were narrow, except in certain unusual lines that were scarce in all quarters.

In many instances prices in provincial markets were actually lower than the laid-down cost from port prices. These occurrences usually indicated that the jobber had bought earlier at lower prices or that he had secured supplies from a more advantageous market than Liverpool. Personal observation of these markets during this period brought the clear impression that the market price on a given grade and variety in Birmingham usually reflected the prices paid for this grade and variety at the Liverpool auction, or other advantageous port market, on the previous day.

Diversion from Port Markets

The studies do not indicate that it is advantageous to divert supplies from port to provincial markets arbitrarily. If lots large enough to stimulate their strength should be withdrawn from the port markets and consigned to the very firms upon whom these markets depend for demand, then stability would be more seriously impaired than if the lots had been sold in the first instance. The effect would be like that in American markets when American growers and shippers begin to consign cars of fruit to markets where they are also trying to make sales f. o. b. shipping point.

There are certain periods when unbalanced supplies demand that apples be diverted from one primary, or port, market to another, in order to secure the best results; but the policy of diverting from the primary markets to the secondary or smaller merchandising markets is a dangerous one and is not to be encouraged as long as consignments from the United States and Canada are not under a unified control at their source.

Diversion from One Country to Another

The only diversions to be effective in strengthening the markets in a country are those which would move a surplus out of one country and into another country where supplies are less abundant. There are always times when it is advisable to reship from Great Britain to the Netherlands, Germany, or Denmark, or from those countries to one another, or to Great Britain.

The condition of fruit often dictates the advisability of diversions from one port market to another, or from one country to another country. This restricts the intelligent direction of diversions at a point within the United States and necessitates having the direction shared by European agents, who are in a position to know when fruit is in a suitable condition for diversion.

The subject of diversion is closely related to that of the use of European cold storage, but neither of these measures can be used

for the protection of the American shipper at times of overloaded markets and low prices unless the fruit is in excellent condition. Greater measures of protection to insure a more dependable condition of fruit upon arrival in Europe are necessary to pave the way for withdrawals to cold storage and diversions during these times. Moreover, European agents must be employed who not only have a comprehensive knowledge of market conditions at home and abroad but who are expert judges of fruit. Otherwise it would be expedient to make continuous shipments for immediate sale upon arrival, trusting to the average price for the season to give satisfactory returns.

DISTRIBUTION ON THE CONTINENT

Primary markets for American fruits on the Continent of Europe have been determined by ocean transportation facilities between European ports and America. Antwerp, Rotterdam, Bremen, Hamburg, and Copenhagen lead in this respect. Each has auction sales of imported fruits. Gothenburg, Stockholm, Oslo, and Bergen are Scandinavian ports for primary distribution, but the volume of imports has not been great enough nor the arrivals frequent enough to warrant auction distribution at these ports. Their business is carried on by means of orders which are placed in the United States and in the primary fruit markets of Great Britain, the Netherlands, and Germany.

There are other ports in continental Europe, such as Antwerp and Amsterdam, which are primary markets for such fruit as Spanish oranges, but which can not be so ranked for fruits from the United States, for small steamers from Spain make direct calls at these ports and discharge sizeable cargoes for distribution. Shipments from the United States would have to be reshipped from another port, as in the case of Amsterdam, or would be subject to customs duties that would prohibit local demand, as in the instance of Antwerp.

At present Antwerp and Rotterdam are the logical ports of entry for distribution to Belgium and the Netherlands, to the populous areas of the Rhine in western Germany, to Switzerland, and, in the case of direct sailings from the Pacific Northwest, to France. Bremen and Hamburg share the distribution of supplies for the central European countries which include Czechoslovakia, Austria, Poland, and such of the Baltic countries as are in a position to buy fruit. As the demand enjoyed by each port does not have well-defined limits, a certain quantity of fruit moves through Rotterdam to points in central Europe, and the outlets of Bremen and Hamburg are enlarged by orders from western Germany.

FREE PORTS

Trade on the Continent is made more complex than in Great Britain on account of customs duties and fruit-pest inspections. To facilitate matters, fruit is discharged in "free ports" which allows reshipments to another country without the necessity of paying duties or putting the goods under bond. For instance, Germany does not allow the importation of apples infested with San Jose scale, but apples may be discharged at free port with inspection

at the frontier of the port before reshipment to the city of Hamburg or to the interior of the Republic. If apples are found to carry San Jose scale, the Hamburg merchants make sales in outside countries.

In the case of Rotterdam, inspection is not made until the fruit reaches the German-Dutch frontier. Infested fruit that is refused entry at such a point incurs additional expense for reshipment across the Netherlands. This means that fruit should be positively free from San Jose scale when exported for the distribution through Rotterdam.

GERMANY

Berlin

With a population of over 3,000,000 people, Berlin is a city worthy of study with respect to the distribution of American fruits in the territory back of the primary markets, to throw more light on the subject of the importance of such primary markets as Hamburg, Bremen, and Rotterdam.

Berlin does not give the impression of being a good fruit outlet. The fine displays in specialized fruit retail stores that are found in such cities as London and Copenhagen are not seen here. Fruit stocks in the mixed retail stores of Berlin are not attractive during late winter. This is in contrast to the retail trade in flowers, which are displayed in attractive floral shops throughout the metropolis.

The wholesale fruit trade of Berlin is centered at Alexander Platz, in the old part of the city. Here in 1886, and later in 1894, the city built the Central Markethalle, a large, brick, skylight structure covering about three city blocks, with its 1,300 stalls, designed to serve the wholesale and retail trades. Here is centered the distribution of meats, fish, dairy products, and fruit and vegetables, so that a great area is required and the place is very crowded. Even before the World War present facilities were so crowded that plans were made to move the entire market to a point where more space would be available and where a harbor was projected to accommodate 5,000-ton ships. These ships were to reach Berlin by a new canal from Hamburg. The war stopped this project.

One noticeable feature about the Central Markethalle is that trading, which starts very early, stops at 10 a. m. By noon the gates are closed and all goods are fenced about or covered over, as on Saturday night. At this hour no business man can be found about the market. At 5 p. m. the gates are opened, and until 7 p. m. the retail stalls do a thriving business. The retail traders come to the Central Markethalle early in the morning, bringing carts, barrows, and other vehicles and carry away the supplies for the day's trading.

SOURCES OF SUPPLIES

The wholesale merchants in Berlin look chiefly to importers for their supplies of lemons, oranges, bananas, and American apples. Many home-grown fruits and vegetables are received direct from the country points, to be sold on commission. During the fall months and until the beginning of the new year these merchants expect to trade largely in apples and pears coming from Czechoslovakia, the Tyrol

region of northern Italy, and Switzerland. Supplies of apples are also forthcoming from parts of Austria, Yugoslavia, Hungary, and Rumania when those countries have crops that allow them to compete.

From Czechoslovakia much of the fruit is shipped to Berlin in barges, loaded loose in a row of bins on each side of the keel of the craft. Several of the Berlin commission merchants have their own barges, and these make two or three trips each season. The boats hold about 100,000 kilograms, equivalent to over 100 tons each. They afford very cheap transportation, as they float with the current down the Elbe River, thence through Haverseas to the Spree River, which passes through Berlin. Three men conduct a barge from the orchards to the German capital in eight days. Artificial propulsion is not required until the very last of the journey.

Upon arriving at Berlin the barges are tied up along the Spree in the heart of the city. The owners of the fruit, who may be either country shippers or local wholesale merchants, sort the fruit from the holds of these crafts and weigh it out in 50-kilogram (110-pound) baskets placed on the sloping roof boards, which, in lieu of permanent decks, protect the perishable cargo from the weather. Here they serve the wholesale or retail buyers, who come along with their carts, barrows, or motor cars.

Apples from Switzerland and from more distant sources are shipped in bulk by rail and are carefully transferred from the railway cars to the bins of the barges for storage during winter months. These river boats provide one of the principal means of apple storage in Berlin, and American apples are occasionally stored in this manner.

Even temperatures are maintained below the water line, and during cold weather straw and other materials are used to protect the top of the load from freezing. So general is this way of storing apples that one of the leading wholesale merchants stated that he had purchased as many as 300 carloads of about 10,000 kilograms (22,000 pounds), equivalent to 175 American carloads, for storage in the river to meet his winter trade. On an October day, barge after barge of fine Bohemian pears may be seen, waiting to be weighed out. Normally at Christmas time a big fleet of barges filled with apples for the winter trade, lies within the shadow of the Kaiser's old castle and of State Church on the River Spree. Some of these apples will be held until late March.

It is apparent that many of the German wholesale fruit merchants are accustomed to look to near-by sources for supplies. When these home supplies become overripe and undesirable for the best trade, American apples are sought. Some of the larger factors go to the port markets for supplies, and a very few go to America. Some receive supplies on consignment from operators in Europe who, instead of selling at auction, make consignments to resident merchants for sale on commission.

Many depend on commission buyers in Hamburg, Bremen, and Rotterdam who attend auction sales and buy on order. Some of the larger houses have branches in Hamburg which are members of the Hamburg Buyers' Association (Verein von Hamburg Sudfruchtgrosshandler).

POSSIBILITIES AS A PRIMARY MARKET

When apples are sold to the Berlin wholesale merchants at the auction in Hamburg they accumulate costs of about 80 cents per box, and $2.20 per barrel, before they reach the Berlin wholesale dealer. The following items enter into this amount: Commission to the Hamburg buyer, 3 to 6 per cent; import duty at 7 marks per 100 kilograms (220.46 pounds), about 33 cents per box and $1.09 per barrel; San Jose scale inspection charge, 10 pfennigs per box (2.4 cents) or 20 pfennigs per barrel (4.8 cents); railway freight at 3.5 marks per 100 kilograms, about 19 cents per box and 63 cents per barrel. Cartage at one end is 50 pfennigs per 100 kilograms—about 3 cents per box and 9 cents per barrel. Added to this is the wholesaler's margin of about 1 mark (23.9 cents) per box or 2 marks (47.8 cents) per barrel. Before the fruit reaches the consumer there is a turnover sales tax which amounts to three-fourths of 1 per cent and is assessed after the first sale within the country.

When it is considered that American apples stand an auction commission of 6 per cent at the port and a buyer's commission of, say, 4 per cent before fruit reaches distribution by the wholesaler in Berlin, immediately the question arises as to why a city of 3,000,000 inhabitants could not become a primary market with consignments made direct to its commission merchants with one charge of 8 per cent which would include the wholesaler's margin—thereby saving the two commissions at the port markets.

Berlin wholesalers have been questioned on this point. Those who have had experience stated that it would be unsatisfactory mainly because supplies might not be dependable and regular. Instead of buying f. o. b. American shipping point, they state that they prefer to see what fruit they are buying and that it has been proven in the past that buying in Hamburg is cheaper and more satisfactory than buying in New York.

It seems evident that satisfactory distribution of apples from the United States in Germany will require the expense of representatives at the port markets to oversee inspection, reshipping, and distribution. At present, with the large number of American shippers and with great range in quality, conditions, and varieties, it seems desirable to maintain distribution through auction sales at the ports of arrivals, in order to have the benefits of clearing houses, where supply and demand may be centered and have free action. This system of distribution may entail an extra cost of a few cents per barrel or box, but the benefits accruing therefrom are not to be doubted.

BREMEN

Bremen serves much of central Germany, as it has good transport facilities to practically all of the industrial areas of the country. Although an ancient port, its development in modern times represents a rivalry with that of Hamburg which has been interwoven with the parallel developments and rivalry between two large steamship corporations in competition for trade with American and other ports of the world. Hamburg competition caused the line serving Bremen to quote equal rates to either port, transferring part of

the cargo from Bremen to Hamburg in lighters if the shipper so ordered. With the increasing development of shipping space between New York and Bremen, the latter developed as a primary fruit market in years before the World War.

Bremen claims an advantage over Hamburg in its proximity to the markets of western Germany, and over Rotterdam because of the distance of the Dutch port from the German frontier. Bremen has a free-port area, so that German fruit-pest inspectors may determine a shipment's freedom from San Jose scale as soon as it is discharged. If traces are found, the infested fruit may be diverted to other countries without additional expense for hauling to and from the frontier.

In the case of barreled apples this is a significant feature, but, because boxed apples so rarely carry scale, it is not probable that this difference will be greatly to Rotterdam's disadvantage.

American apples are discharged from the steamships in the outer section of the free port. As this is not a convenient place to display the fruit, the steamship line transfers the apples to lighters and delivers them to a shed, still in the free port, but near the city, where prospective buyers may visit the display without inconvenience.

The shed used for fruit sales is specially equipped with heat and is satisfactory for its purpose. The smaller Mediterranean ships that discharge oranges are able to do so directly at the shed. This shed is the property of the free port of Bremen but is leased by a private company which handles most of the imported fruit through this port and performs all of the work of receiving, sorting, and delivering.

The German method of displaying fruit for auction sale differs from that employed in Great Britain, and, on the whole is preferable. It consists of showing samples in the vicinity of the lots instead of removing the samples to the salesrooms. Thus the buyer visits the dock, gives the fruit close examination, and is more careful than if he had only a vague idea as to the relative condition of the various lots.

The salesroom is also in the control of one firm of fruit brokers. It is an attractive, comfortable, and satisfactory auction room. The same interests own another salesroom in the vicinity, which is admirably equipped for using the "Dutch method" of dial auction sales. (See p. 70.) This is used for selling domestic fruits and vegetables, but is never used for imported fruits. Buyers from districts outside of Bremen are attracted to the sales of imported apples and oranges, and as they are not regular visitors they are not accustomed to the dial method; their patronage would not be obtained if they were embarrassed by strange methods.

The Bremen fruit auction is limited by mutual consent to buyers within a certain zone of the city. This zone is somewhat larger than that of Hamburg, allowing many wholesale merchants in the vicinity to attend sales of imported fruit without necessitating the use of a commission merchant. Buyers outside of this zone have to employ a local member and pay him a commission.

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Brokers at Bremen pay the free port for the use of the quays and shed, leasing them by the season. They furnish the labor to remove fruit from the barge's side and to sort, pile and deliver.

Hamburg

In 1913 Hamburg ranked among the four largest ports as a market for American apples. After a lapse of 10 years, during and following the World War, it again featured as a primary distributing point in 1923 and by rapid strides has now regained its old rank in a major position.

The intervening period brought many changes. Instead of American apples going to Hamburg for reshipment to Scandinavian countries during the war, apples went to Scandinavian countries for reshipment to Germany. This developed much direct trading between the Scandinavian countries and America, which has continued since the war. During this time Copenhagen's importance as a point of primary distribution was so enlarged as to firmly establish auction brokers who had already settled at this point. Russia's isolation as a great world-trading nation was brought about during this period, yet because of the enterprise of the brokers of Hamburg and the excellent facilities, Hamburg's return to importance has been rapid.

As a primary market for the distribution of apples from the United States Hamburg's facilities are unrivaled. It has good shipping service both from New York and from Pacific coast ports and is a focal point for commodity distribution to the countries around the Baltic Sea and to central Europe.

In the free port of Hamburg, four large covered quays or sheds are at the disposal of the fruit shipments. Here cargoes may be discharged, inspected, reconditioned, subdivided, and reshipped without the delay and additional work of customs inspection. These quays are heated by steam and are admirably equipped for fruit handling. Many of the Hamburg buyers have separate inclosures in these sheds where they maintain facilities for reconditioning fruit. This is especially important in the heavy Spanish and Italian orange business that passes through the port. When fruit is bought for distant markets only good oranges are reshipped, and the payment of duty on deteriorated fruit is prevented by this reconditioning process. This feature is not to be seen in other auction markets of Europe.

The auction buyers in Hamburg have an association called the Verein von Hamburg Sudfruchtgrosshandler (Association of Hamburg Southern-Fruit Wholesalers), and the auction brokers have their association, called Auktions-Ordnung der Hamburger Fruchtauktioneren (Auction Association of Hamburg Fruit Auctioneers). The two associations have mutual working arrangements; the buyers look only to the auction for their supplies of certain fruits, including American apples, and the auctioneers agree to sell only to members of the association. Thus Hamburg auction brokers do not sell to Berlin buyers. These buyers must look to the Hamburg buyers for their supplies, or, as is more commonly the custom, commission them to buy. The Hamburg buyer charges a commission of 3 to 6 per cent for this service.

The buyers' association appoints two men to select samples. After the steamship company has discharged the cargo and the brokers' men have sorted and piled the fruit according to size, variety, grade, brand, etc., these men stamp selected packages to be displayed as samples. From lots of 10 packages, 1 sample is shown; lots of 30 packages, 2 samples; lots of 50 packages, 3 samples; lots of 100 packages, 4 samples; and lots over 100 packages, 5 samples. The boxes on show are opened in a row near the lot, and buyers have to visit the fruit sheds at the free port in order to inspect the fruit they are to bid upon. As a result, the buyers are much better judges of the fruit being sold than in those instances in which they sit in an auction room where the fruit is merely shown briefly to the audience. Here many fruit firms have their offices; seven of them are auction brokers selling alternatively in the salesroom.

The auction salesroom is in the Fruchthof (fruit market), about a mile distant from the sheds in the free port. It is an excellently appointed salesroom, equipped with heavy sound-proof curtains so that it may be divided into two sections with two sales proceeding at once, as is often the case during seasons of heavy arrivals. Sales are held Tuesday and Thursday, starting at 1.30 p. m., and lasting until the sales are completed.

Hamburg is supplied with cold-storage facilities, some of which are in the free port. This makes it possible to store goods in Hamburg without placing them in bond or meeting German customhouse requirements. The storage of apples, however, is a business that the trade has not been accustomed to in the past.

Apples from Czechoslovakia and the Tyrol reach the German markets through devious channels and do not go into distribution by the auction route in the same proportions as do American and Spanish fruits. Large wholesale merchants in various German cities go to the orchard sections and arrange for shipments direct to their places of business, either by buying the fruit from the farmers or by soliciting consignments. Some own canal boats, and after collecting a boatload, do their own transporting. In other instances, local buyers collect supplies from the farmers and consign them directly to the wholesalers of the larger cities like Berlin, or sell them, or take boatloads to the cities and job them out over a period of several weeks.

The great volume of this fruit that goes directly to the wholesale merchants thus does not pass into distribution over the auction but Hamburg fruit brokers do get some of this business and when taking part in its distribution, the carloads that they roll to Hamburg are sold in carload units at a given price per 100 kilograms. It is necessary to handle the business in this way since the fruit is shipped in bulk.

After the World War Hamburg was slow to handle the volume of barreled apples that was customarily taken before. Boxed apples of the Pacific Northwest held the field of preference. The reasons given for this change were that the post-war import duty, higher freight rates, and increased apple values at shipping point placed the fruit beyond the reach of any but the wealthier classes. As the trade wanted a fancy article to meet this demand, boxed apples were more satisfactory than barreled apples.

Not until the 1926–27 season was any considerable interest shown in barreled apples. The import duty was reduced from 10 marks (about $2.40) to 7 marks (about $1.67) per 100 kilograms (220.46 pounds) during the winter of 1925–26. This amounts to about 65 cents per barrel and, taken with the shortage of home-grown apples and the low prices in the United States, accounts for the renewed activity. During the winter of 1926–27 Hamburg readily absorbed from 10,000 to 20,000 barrels per week in addition to 25,000 to 35,000 boxes; whereas from 10,000 to 15,000 boxes and practically no barrels had been the weekly capacity of this market during the previous two winters. The improved economic conditions throughout Germany were also reflected in this increased demand.

THE NETHERLANDS

ROTTERDAM

Rotterdam may be called the gateway to western Europe for American fruits. The Netherlands and the Rhineland receive their supplies of American apples through Rotterdam. From here they are distributed as far south as Switzerland.

Transportation is the principal factor that makes Rotterdam the primary market for this region. An important steamship line which has its terminal docks and sheds at Rotterdam offers a service which, coupled with good rail connection with the interior, makes a transportation combination that has directed a vast volume of all kinds of shipping through this point.

The Panama-Pacific service of this line, followed by that of other steamships carrying fruit direct from the Pacific coast to Rotterdam under refrigeration, has added greatly to the importance of this port market. Direct shipments from Portland and Seattle have given such uniform success in landing fruit in a fresh and firm condition, with packages practically free from breakage, as to win great popularity among the apple buyers of western Germany and the Netherlands. These cargoes are looked forward to eagerly, and on account of their better condition they bring higher prices than do apples shipped from London or New York.

Owing to the fact that direct ships from the Pacific coast do not ordinarily call at French ports, apples shipped via the Panama route usually reach Paris and other French cities through Rotterdam. This makes possible the shipment of apples in carload lots and much of the rough handling and excessive bruising that attend the shipment of small lots through the French ports is avoided.

Amsterdam may be as popular as Rotterdam as a primary market for Mediterranean oranges and lemons, and is an important market for these fruits, but this fact does not influence the apple trade. Mediterranean steamships make Amsterdam a port of call, but when apples are billed from New York or from Pacific coast ports to Amsterdam they are discharged at Rotterdam and are reshipped by canal to Amsterdam. By selling the apples at Rotterdam, time, handling, and extra expense are saved on all fruit not destined for consumption in the city of Amsterdam.

Methods of Sale in the Netherlands

Little private selling is done by the brokers who handle distribution through Rotterdam. One large distributing firm operating at this point does not sell at auction but divides cargoes for consignments to commission-merchant connections in many of the cities on the Continent. A charge is made for supervising this distribution in addition to the 8 per cent commission charged by the distant salesmen. It is claimed that this is less expensive than selling at auction. These interests have inaugurated the shipment of heavy consignments from the Pacific coast for storage at Rotterdam. Distribution is made from cold storage as demand in various quarters warrants withdrawal.

This system of distribution is in conflict with the auction system, since fruit is supplied directly to the firms that would otherwise swell the demand and raise prices at the auction sales. Providing control of such distribution can be kept in the hands of one firm, it has many things in its favor. But without control widespread consignments are certain to lead to chaos so that the port-auction sale, as an initial clearing house, is still to be looked upon with favor.

Most of the American apples that arrive at Rotterdam are discharged at the quays at Rynhaven, and are piled in their sheds which are modern and provided with satisfactory equipment. The steamship company does its own stevedoring and portering at a moderate cost and in a satisfactory manner. The brokers have their dock men who, at the time of discharging, segregate packages in separate piles in the sheds. The fruit is catalogued for auction sale in the usual way and prospective buyers inspect the fruit in the steamship sheds. Sales are usually held on Monday and Thursday.

The buyers in the Netherlands control auction sales to a greater degree than is true in other countries. The Netherlands Association of Fruit Wholesalers has a membership of about 300 buyers who license the brokers who may sell to them at auction. There is a mutual agreement between buyers and auction brokers that the first will buy only from, and the latter will sell only to, each other.

Instead of the brokers selecting the samples to be exhibited at the auction sales, as is done all over Great Britain, here the association of buyers appoints their own men to do the selecting from the cargoes. If the broker is not satisfied that these men have selected representative samples, he may choose his own samples and have two sets displayed at the sale.

It has been noted that only members of the buyers' association can buy at these sales. Buyers from outside the Netherlands are not allowed to become members of the association. It follows that when wholesale merchants from cities like Dusseldorf and Cologne visit auctions at Rotterdam it is necessary for them to employ one of the regular members to do their buying for them. They are charged a nominal fee (amounting to about 2½ cents per box) for this service.

Some of the Dutch brokers maintain branch houses in western Germany to develop trade. It is not necessary for the German buyer to go to Rotterdam to effect purchases at the sales as they often

depend upon their Dutch buyers to inspect and take delivery of the fruit for them.

A feature of the Hamburg market of which American shippers should never lose sight relates to the season of demand. This applies also to Bremen and Rotterdam. The orchards of Germany, the Netherlands, Switzerland, Czechoslovakia, Italy, and other European countries normally produce heavy supplies of apples and pears that sell at low prices during the fall and early winter months. Little attention is given to packing or storage, so that deterioration removes this competition early in the winter. Except in years of crop failure on the Continent, the demand for American apples is small before the 1st of December.

The so-called "Dutch system" of auction sales is not used with fruit imported from America. This system of sale is designed to save time in selling small lots of fruits and vegetables brought in to the market centers by the Dutch farmers. It consists of equipment including an electric push button at the seat of each buyer connected with a control at the front of the room whereby the index hand on a large dial, 6 or 8 feet in diameter, is arrested the instant a light flashes behind a number on the face of the dial, which is the number of the buyer's seat. The goods are catalogued in the usual way, and as each lot comes up for display the auctioneer announces the lot, sets the hand at the position of "12 o'clock," which on the dial represents a price mark considerably above the going market. The dial index hand starts its swing, and as it goes from the high price to low the prospective buyer watches as it approaches the figure which he is prepared to pay for the lot. When it reaches that figure he presses the button and the hand stops, indicating the price paid and the number of the buyer. The clerk records the sale as the auctioneer swings the index hand back to the zenith of the dial and announces another lot. Those that missed buying the first lot will stop the hand at a higher figure on the next lot offered if the commodity is scarce and demand justifies a price elevation.

BELGIUM

Belgium is similar to the Netherlands in regard to fruit production and consumption. When the Provinces of Limburg, Liege, Brabant, and East Flanders have a crop of apples and pears, few are wanted from the outside. Demand has been confined principally to high-class dessert apples during winter months, and the excessive import taxes on this class of fruit have largely stifled American apple trade since the World War. The year 1926–27 was an exception to previous years; Belgium's demand was caused by the almost complete failure of the home crop during 1926.

Antwerp

Antwerp is the principal port, and here imported fruit receives primary distribution through auction and private sales. Antwerp has been an important point of distribution for Spanish oranges and grapes for many years, but its participation in the American apple trade has been limited. Antwerp's natural field of distribution is not confined to Belgium alone, as advantageous transportation rates to

points in western Germany give the Belgian port a share of the German business.

DENMARK

Copenhagen

Its central position in northern European commerce has made Copenhagen a clearing house for Mediterranean fruits and for central European and American apples and pears. During the World War it came into importance as a direct receiver of apples from the United States. Prior to that time, Copenhagen received heavy fruit supplies from Hull, London, and Hamburg, but curtailment of supplies through these sources accentuated direct trade with producing sections, and since that time the port has been firmly established as one of the European points of primary distribution.

Some fruit supplies still move to Denmark via Germany and Great Britain. German and British merchants watch this outlet, either to accept orders or to reconsign thereto when prices and supplies justify such action.

Copenhagen furnishes some fruit supplies to Norway and Sweden. Merchants in those countries watch sales and prices in this market as they do in Hamburg and Hull, and place orders to fill their demands between the arrival of direct supplies; but it is the Danish trade that now largely sustains the Copenhagen market. Differing from the firm-order business in other Scandinavian countries, fruit from the United States is largely received here on consignment and is sold at auction.

Auction methods

The Copenhagen market has two auction brokers. The fruit business, in common with so many European auction markets, is based upon the Spanish orange trade. Heavy arrivals of apples and pears are also received in railway cars direct from the shipping districts in Czechoslovakia and Italy. American apples, however, fill a large gap and afford a good revenue, and for that reason are being given full consideration by the brokers.

Both of the auction firms have leased sheds at the free port. Here fruit is unloaded from Spanish steamers directly into the sheds, where it is shown for sale. Apples from Czechoslovakia and Italy are brought to the same premises by railway cars. Apples coming from the United States on Panama ships are unloaded at the sheds, but those arriving on steamers from New York are discharged at the quay where ships regularly berth and are removed to the leased sheds by the motor trucks of the brokers as fast as they are discharged.

The fruit is displayed after the German fashion, with samples shown at the docks during the morning of the sale. Sales are held at 3 p. m. on Tuesday and Friday in a large room in the Handels og Kontoristforeningen (Commercial Club) in the center of the city. The two firms of auction brokers take half-hour turns, selling to the same audience of buyers.

The buyers have an association much like that in Hamburg. Scandinavian purchasers from out of the city have their Copenhagen correspondents do their buying.

Wholesale merchants from near-by towns are supplied from Copenhagen. The use of the motor truck has been a great factor in extending the radius of distribution of such centers as this. The local wholesale trade is concentrated near the market square; most of them have stores facing this area. Here the retail trade comes each morning for its supplies.

Copenhagen is distinctive among European cities for its large number of retail fruit stores. With a population of 700,000, it has a scattered retail area; yet in all parts of the city are many small shops in which fruits and confections are sold and in which the fruit displays are very attractive.

NORWAY AND SWEDEN

The markets of Norway and Sweden are influenced less by the home production of fruit than are any of the other countries of Europe. Restricted buying power and heavy import custom duties at present stand in the way of heavy per capita consumption of apples, but even with very high retail prices Norway and Sweden have come to be important apple importers.

Fruit Business on F. O. B. Basis

Methods of apple distribution here are markedly different from those used in other parts of Europe. Distribution closely resembles that in the United States. Practically no American apples are shipped on consignment to Norway and Sweden. Nearly all are bought on firm-order basis f. o. b. New York, cash against documents when presented at a Scandinavian bank. In some instances, importers buy on an f. o. b. basis with payment against documents when surrendered at an American bank where a letter of credit has been established. Some exporters demand this type of prepayment, though it is not favored by the importers, and only a limited portion of the business is so handled.

Before the World War a large amount of this business was handled in British and German ports, but in recent years the main source of supply has been in New York, and orders to other European countries have been only for supplementary supplies. The practice of buying directly from the country of origin is now popular, because importers can secure more regular and dependable supplies from that source than was formerly possible. Fruit reshipped from Great Britain and Germany suffer more or less damage from breakage, pilferage, and delay in transit.

Owing to high ocean freight rates between New York and points in Norway and Sweden, transportation charges are less via England or Germany. Combined with periods of low prices in the consignment markets, this frequently means that England and Germany are the least expensive sources, but preference continues to be given to New York.

The feature of closest resemblance to American distribution is that identified in the practice of a local resident agent acting as a representative of the fruit shipper, whose quotations are placed before

the buying trade. Orders are solicited, booked, and submitted to the American shipper. Thus the Scandinavian importer, when looking for supplies, telephones the local agents instead of cabling the distant shippers, compares quotations, and places his order in the most advantageous quarter.

Orders accepted by the American shipper are forwarded directly to the Scandinavian buyer, and draft, bill of lading, and inspection certificate are sent to the Scandinavian bank. The agent renders a bill against the shipper for his services.

When the shipment arrives the buyer takes up the documents at his bank or, in case they arrive on a subsequent ship, gives a bank guaranty for payment, pays the freight and costs from New York, and accepts the shipment. The buyer is not allowed inspection before paying the draft. In case the fruit does not meet specifications the buyer makes his complaint to the local agent. The buyer may refuse to take up the documents at the bank if the order is not forwarded on the ship specified. This emphasizes the importance of being in a position to fill orders at the exact time specified.

Frequently orders are for less than carload lots and for special sizes. This, together with the exacting requirements as to forwarding orders on stated ships, accounts for the fact that so much of this business is concentrated at New York City. The number of American firms participating in this business is comparatively small. Few have made financial arrangements to pay the inland freight charges in the United States so as to quote f. o. b. New York City. Not many shippers are sufficiently acquainted with the overseas agents to leave the rating and responsibility of foreign buyers in their hands. It is necessary for the shipper to have full knowledge of his agent because this representative must be very discerning as to those to whom he sells.

Business has been developed along these distinctive lines in Norway and Sweden, because the volume of Italian and Spanish citrus fruit imported at any one port has not been concentrated enough to develop auction selling. This has caused exotic fruits to be imported by the same factors who have brought in colonial products (coffee, tea, cocoa, spices, wines, etc.). The importers are usually large and financially responsible firms, who do a jobbing business with the smaller wholesale merchants.

By the influence of competition between the actual importers and the agents for colonial products, there has come about both a national and local organization of the two groups in Sweden. In short, the agents agree not to canvass the small wholesale buyers, to whom the importers redistribute their importations; and the importers agree that all direct importations from America will be secured through the agents. These arrangements are observed with varying degrees of strictness in the various Swedish cities. The organizations serve other purposes, the more important of which is the settling of arbitrations. In case an importer defaults on an order the entire matter is placed before the agents, and the importer is placed on the black list. An agent who has an undesirable shipper is placed in an equally embarrassing position by the importers' association.

Early Booking of Advance Orders

Through competitive solicitation for orders on the part of the agents, and without any reluctance on the part of the Scandinavian importers, a custom has been developed whereby orders for fall delivery are each year booked as early as June, and heavy bookings are made for all fall shipments during the month of July. This is an unfortunate practice in the Scandinavian fruit trade, because it favors a class of shippers in the United States which has no hesitancy about making chance quotations before the size of the American apple crop is known or prices have been established. Conservative shippers will not accept orders at this season unless quotations have been safely high. Less responsible shippers will quote very much lower prices, although they may not have the fruit within their control to fill orders; and they have been known to revoke their contracts later, and to supply inferior apples if the open market, upon which they depend for supplies, demanded high prices during the shipping season.

The Scandinavian buyer in the past has been too willing to be guided by price alone when placing his orders. Reliable brands and reputable shippers have been given scanty attention in arranging for supplies. So it follows that even in a year of very large supplies and low prices many Scandinavian orders have gone unfilled. This upsets the trade, restricts supplies, and reduces the amount of business that might be done. When a Scandinavian importer has placed an order for a stated quantity of apples to be shipped during a certain period, he has booked orders from his customers with the expectation of supplying them from expected arrivals. Shipment from the United States is postponed, and the importer is filled with uncertainty. He does not buy from Hull, London, or Hamburg for quick delivery because his purchases may come forward on the next ship from New York. In the end he may or may not receive a cable explaining that his order can not be filled. During this period his business, as well as that of his wholesale customers, has been curtailed.

The American operator who goes in the open market to fill Scandinavian orders has caused many grievances. This trade wants color, and, in barreled stock, the presence of sizes larger than 2¾ inches is wholly unsatisfactory. Buying "U. S. No. 1, 2¼ inches minimum," without close inspection for at least 50 per cent color on varieties such as Baldwin, Ben Davis, or Winesap, and for a range of sizes between 2¼ and 2½ inches, is almost certain to give trouble.

Preseason quotations are the greatest cause of difficulty in the Scandinavian apple business. The American apple trade should use its greatest influence to dissuade the agents and importers of Norway and Sweden from booking orders for varieties other than Gravenstein and Winter Banana earlier than August 10 of each year.

Inspection Certificates and the Scandinavian Trade

Inspection certificates issued by food product inspectors of the United States Department of Agriculture are customarily used in this business, whereas consignments to the auction markets of other

European countries have made but a small call upon this service. Scandinavian importers have frequently condemned the inspection service through their lack of understanding either of the character of the service or of the specifications of apple grades of the United States. In many cases they have assumed that an inspection certificate, instead of merely stating the condition of the fruit, assured them of receiving apples complying with their conception of grades and sizes. Often importers suppose that United States No. 1 apples will have much more color and will be much more uniform in size than the actual grade specifications require.

When requesting Federal inspection for this trade the inspector should always be instructed to describe the color and sizes. Inspections restricted to the doorways of railway cars are not fully satisfactory, and much dissatisfaction could be avoided by having inspections made after the car has been unloaded at the port.

In cases of dispute in which shippers intend to introduce inspection certificates as evidence, it should be remembered that certificate numbers are identified with car numbers, and, therefore, as soon as the fruit is unloaded and transferred to a steamship a foreign court is liable not to recognize identity between fruit and certificate unless proof is established that the given carload was transferred to the ship on a certain date. When more than one carload of one brand or variety is forwarded on a single ship, lot numbers should be used for purposes of identification in connection with inspection.

Terms and Credits

At present there is a great variability in terms extended to Scandinavian importers. Some American shippers will not accept orders unless letters of credit, sufficient to cover the entire purchase, are established in the United States before shipment. This means prepayment for fruit purchases. There is evidence in Norway and Sweden that, going to the opposite extreme, some importers are extended credit of 30 to 60 days after the apples reach Scandinavian shores. It is probable that most, if not all, extended terms of credit are arranged by the resident agent rather than by the American shipper. As most of the importers have to extend credit to their wholesale customers, terms, as well as price, play an important part in placing the business.

The shipment of fruit that has been sold on an f. o. b. New York basis, with collection when the draft, invoice, bill of lading, and inspection certificate arrive in the Scandinavian city, is the most regular arrangement. There is no doubt that many firms are worthy of these terms. Much depends upon discrimination between those who are worthy and those who are not by the overseas agents of the American exporter. In addition to employing agents who are reliable in this respect, exporters would do well to establish a cooperative credit rating of all importers in the Scandinavian fruit trade since there are some who have reputations for failing to accept shipments at every adverse turn of the market. These should be made to prepay for every order.

Brokerage Charges

The uniform charges made by agents representing American fruit exporters in Norway and Sweden are 5 per cent of the quoted price. In making quotations, due allowance should be made for this in stating the price since it amounts to more than the brokerage in an American city.

General Agencies for Norway and Sweden

Various agents have attempted to establish branch offices or to affiliate with resident agents in other cities and thus offer foreign shippers a blanket representation or general agency for all of the principal cities of Norway and Sweden. This movement should be encouraged by American shippers because it ought greatly to simplify handling the business in these quarters. The telephone is extensively used in Norway and Sweden, making quick communication available, so that one cabled quotation should serve the purpose of separate cables to each center. In countries in which orders are small this form of representation is conducive to concentration and efficiency.

Chief Markets

GOTHENBURG

Sweden is the most important of our apple customers in the Scandinavian countries. From the crop of 1926 in the United States, 196,000 boxes and 72,000 barrels of apples were exported to Swedish ports. Of these ports, Gothenburg is the most important, owing to the fact that it enjoys the service of two direct steamship lines from New York, as well as direct ships from the Pacific coast. It follows that much of the imported fruit destined to other Swedish cities is discharged at Gothenburg.

It has an excellent harbor, and since the World War a new free port has been completed. As the ships of the two lines mentioned do not call in the free port, and as apples discharged here are mostly for Swedish consumption, these new facilities are not much used for fruits from the United States. Local merchants use the new warehouse in the free-port area for fruit storage, and here goods are held when under dispute and awaiting payment of charges and import duties.

The fruit trade in the city is not localized as it is in most cities. The importers and agents have premises widely scattered over the city. The small wholesale fruit merchants also have scattered places of business, but meet in a common market area during periods of sale.

Imported fruit is removed directly from the quay to the warehouses of the importers and then reshipped to the wholesale trade. For term storage it may be moved either to cold storage or to the free port.

Apple production in Sweden affects the demand for imported fruit during the fall months if the country has a good crop. Apples are also received in carload lots from Czechoslovakia and Italy. Normally, the demand is greater for barreled apples than for those

in boxes, and, because of its shipping qualities, the Ben Davis is always a favorite.

The organization of agents, importers, and wholesalers in Gothenburg is on the strictest basis—more strict than in any other city of Sweden. Their organizations are called Fruktagentforening (Fruit Agents' Association), Fruktengrossistforening (Fruit Wholesalers' Association), and Frukthandlareforening (Fruit Dealers' Association). Gothenburg agents agree not to sell to the wholesale customers of the importers in the local area, but they do attempt to secure any business they can in outside cities.

Gothenburg is closer to Copenhagen than are most of the northern cities and looks to that market when supplies are heavy and prices advantageous, just as it does to British and German markets. However, preference is given to buying directly from America, whence direct supplies may be received; and reshipments from other European ports are looked upon as a secondary or supplementary source of supply.

STOCKHOLM

Stockholm is a large distributing city with a population of 500,000 people, but unfortunately it is not situated as a primary distributing point for American fruits. Few shipments are made directly to the port of Stockholm because the only regular ships from America that call there are slow freighters from New York and infrequent motor ships from the Pacific coast. The passenger steamers from New York call at Gothenburg, and freight for Stockholm has to be reshipped by rail or canal. The rates are the same as to Gothenburg when reshipped by canal, but delay ensues, and additional handling is necessary. Consequently, Stockholm looks in various directions for its supplies of apples.

Regardless of these conditions, direct supplies are most popular. Trade is carried on as has been described, excepting that agents, importers, and wholesalers are not so closely organized as at Gothenburg. The result is that more of the importers go direct to American sources, and some of the agents have resorted to canvassing wholesalers for small orders.

Stockholm uses many Tyrolian apples from Italy. During years of good Italian crops these apples are to be seen in every retailer's window, and it is stated that during the fall weeks at least 20 cars of Italian apples are received daily.

Members of the trade have offices scattered over the city. The municipality provides cold storage in connection with its market but practically no refrigeration is used for apples. The greater part of the supplies are purchased on a hand-to-mouth basis and stored in the warehouses of the importers.

OSLO

The capital of Norway has a population of 250,000. In addition to supplying the demands of the city, the fruit trade caters to country demand in southern Norway, but the trade there is not so great as that centering at Stockholm, since the mountainous nature of the country has limited its population and buying power.

The city is well connected with New York by two steamship lines. Frequent sailings are also had from British, German, and Danish ports.

Oslo does not have as good rail connections as Gothenburg and Stockholm for importing apples from southern Europe, but these fruits compete with American, even if to a smaller extent. This competition and a heavy duty restrict imports. Import tariff rates are shown on page 112 of the Appendix.

The fruit trade in Oslo does not differ markedly from that in other Scandinavian cities. The agents have an association, Import og Export Agenters Forening (Import and Export Agents' Association), and the importers have two organizations: Kolonialgrossisternes Landsforening (National Association of Colonial Products' Wholesalers), and Frukt Importörenes Forening (Fruit Importers' Association).

Several of the importers are dealers in colonial products and do a small-order jobbing business to the country points so that apples are wanted that are in a good, firm, shipping condition after arrival. They are stored, pending distribution, in the stores of the importers or in a large central warehouse building at the docks called Kristiania Havnelager (Christiania Port Warehouse), a good, dry warehouse.

BERGEN

Bergen is one of the oldest trading cities of northern Europe and now has a population of about 100,000. It is a central distributing point for all of the west coast of Norway, principally from Stavanger to Trondjem. When reshipping to the latter point as long a time is required as from New York to Bergen, so only small-sized apples of such varieties as Ben Davis can be used. Some of this fruit is again reshipped from Trondjem.

The port is served by a line which has sailings from New York about every three weeks. Some apples arrive on the slower freighters, and to those who are acquainted with shipping these ships are a means of reducing freight costs. The liners make Bergen a port of call; therefore cargoes are discharged in a minimum of time and at a higher cost than is necessary for discharging from the freighters. Bergen has an excellent service to England via Newcastle, with three sailings per week. Thus American apples are brought in through British markets, principally Glasgow and Newcastle.

Ordering apples from American firms is on a similar basis as in Gothenburg, Stockholm, and Oslo. The largest importers look to the agents of American firms for their regular source of supply. The principal competition is from the excellent Norwegian-grown Gravenstein apples which come from the near-by Hardanger Valley. These have good keeping quality and last well into the winter months. Little attention is given to grading and packing, however; most of the apples are marketed loose, in boxes or bags, and are for local consumption only. It is estimated that of the American apples imported into Bergen, about two-thirds are used in the immediate vicinity.

FRANCE

Paris

The distribution of fruits and vegetables in Paris is unique considering the size of the city and its position as a world metropolis. Paris depends almost entirely upon home-grown produce, and simplicity rules in all methods of marketing. Its market furnishes a striking contrast to that of London, where more imported than domestic fruits are seen and where it is necessary to have relatively complex channels of distribution. In the Paris market a heavy volume of fruits and vegetables goes from grower to consumer with only one or two intermediaries. From grower to commission merchant, to retailer, to consumer is the path of most of the fruits. The large factor who deals in volumes between the producer and small wholesaler, so common in the larger American cities as the car-lot jobber, and in England centers as the importing broker, is practically unknown in Paris.

Almost the only fruits imported in France are a few pears and apples from Italy, Switzerland, and Belgium; oranges from Spain; and bananas from the Canary Islands and the West Indies. With its subtropical Mediterranean coast and its varying altitudes and climates, France is relatively self-sufficient as regards the year-round supply of fruits and vegetables.

All of the fruit and vegetable growers of France look upon Paris as the best market for their fancy produce. Many fruits and vegetables grown in the Provinces of France are brought to the Paris market to be exported to England and Germany. Thus Paris is never likely to be neglected by the French grower in the matter of choice supplies. His choicest berries, cherries, apricots, peaches, pears, plums, grapes, and apples find their way in season to Paris. Of these fruits the grape occupies a position of greater importance than it does in any of our American cities. It comes on the market in July and is there until March.

As a market for fruit, Paris does not compare with a city like London. Its wholesale and retail stores do not show the quality, quantity, or assortment that would be expected by one familiar with other large markets. During the late winter and early spring, only bananas, oranges, and a few withered home-grown apples and pears are seen. The retail fruit shops are inconspicuous, their displays neglected, and their stocks small. Supplies of winter-grown vegetables, however, are much more important, and their quality is of the best.

METHODS OF DISTRIBUTION

The municipality of Paris enters into the distribution of its perishable foodstuffs to a greater extent than does any other city yet observed. A large area, apparently about 10 acres in extent, is devoted to a municipal market. This is located in the heart of the city, and 2 or 3 miles distant from connections over which the bulk of the produce arrives. Covering the market area are large pavilions

divided into sections which are devoted to the marketing of fruits and vegetables, meats, fish, poultry, dairy products, and flowers. Each section is subdivided into wholesale and retail parts, although there do not seem to be closely drawn lines. The wholesale merchant will sell any of his commodities in units of one package.

The number of stalls in the market remains constant. The municipality keeps a close check on each merchant's turnover, and space is taken away from one and granted to another, or locations are changed, as volumes of business change. Each merchant who occupies municipal space is required to deposit a guarantee fund with the municipality and to file a duplicate copy of all account sales. No merchant is allowed to do both buying and selling business, but must sell solely on commission, and he is prevented from making financial or other advances to growers as an inducement in soliciting consignments.

The administration of the market is carried on by the Paris police department, whose records are open to the inspection of the public. If, within a certain number of years after a transaction, a grower or shipper feels that he was not fairly dealt with he can search the police records, compare his account sales with those filed with the police, and with the going market for the date. If discrepancies are found, or if infractions of the rules and regulations are found, the commission merchant is subject to the confiscation of his guarantee funds and to the loss of his space.

It is stated that these regulations are so numerous and so difficult to comply with that many have developed wholesale businesses on private property adjacent to that of the Halles (municipal market) where they are not subject to these requirements. This seems particularly true of the fruit and vegetable business as apparently more business is done outside of the Halles than inside. The firms that do the largest volume of business have their own properties, and they buy and sell or make advances to growers at will. If the grower or shipper is dissatisfied with the treatment he is receiving from these unregulated merchants he always has the option of making his consignments to those under municipal supervision.

Practically all of the fruit business in Paris is on a commission basis. Most of the French fruits and vegetables, which constitute the bulk of the produce handled, are consignments direct from the grower and usually consist of a few packages of one fruit and a few of another. There is no standardization of packages in France, and the commission merchant is burdened with the handling of several different styles of packages in dealing with one commodity. As sales are made directly to the retail trade in quantities ranging from one package to many, and as all have to be accounted for to the grower by the commission merchant, an endless amount of accounting is required of the Paris wholesale dealer.

The commission merchant in so far as possible segregates his commodities so that the buyer may go to one part of the store and find oranges and to another and find potatoes, but for the most part the commission merchant has been required to keep each shipper's consignments in a group, with a salesman in charge of several consignments. The variation in containers has caused the commission merchants to do their trading by units of weight instead of by packages. Some of

the larger operators have attempted to solve the problem of accounting by the installation of American bookkeeping and calculating machinery. The practice of growers of consigning their produce to a commission merchant, who in turn sells it to a retailer or consumer, is a simple method of distribution, but it results in a complex wholesale business and probably is as expensive as if another intermediary consolidated consignments and redistributed them in larger units to the smaller jobbers who treat with the retail trade. Certainly the system prevents the proper exhibition of the fruits and vegetables in wholesale stores and places a great handicap upon attempts to do business efficiently.

Another serious burden for the Paris wholesale merchants is that of returning empty packages to the grower. This practice is not confined to France but is as common there as in any European market. The practice usually is based upon the fact that the commission merchant owns the packages, and sends them out to the grower as an inducement to get consignments. The grower is charged with a certain number of packages when they are forwarded and is credited with those that are received full of produce. They then pass through to the retailer, and he is given a credit when he returns the empty baskets or boxes. The commission merchants in the market together make out a list of uniform prices on returnable "empties." Aside from all of the accounting in connection with this practice, considerable warehouse space and labor are required to handle, sort, repair, and store the empty packages.

The great value that is placed, in France, on independent and individual enterprise is nowhere better illustrated than in the Paris market. One of the largest commission merchants outside of the Halles, who has three large wholesale stores in various quarters of the market, employs 50 or 60 sales people, many of whom are women. Instead of salaries, each receives a commission of 1½ per cent of his sales and is given an allotted floor space with one or more growers' consignments to sell. A customer is likely to pass through the store until he comes to his favorite salesman. Each salesman retains his own good will with a certain clientele. There are, in effect, 50 or 60 small commission merchants under the canopy of one firm; the head of the firm provides the premises, the accounting, and the finances, and maintains a field organization to secure the necessary consignments.

In addition to the commission merchants in the Halles and in the surrounding territory, Paris also has a farmers' market. The wide avenues about the market are closed to vehicle traffic prior to 8 a. m. each day and are divided into plots which are allotted to farmers who bring in their produce and sell from the pavement to small shopkeepers and consumers.

Each farmer pays a small sum for a license and each day as he drives in is assigned to a certain pavement plot. If he appears regularly he is usually given the same position each day. Usually he unloads the produce from his wagon or truck so that the avenues are free from vehicles. Purchases are usually delivered on the backs of porters to the carts and barrows of the market buyers. The concentration of the farmers' market with the wholesale trade in meats,

fish, and dairy products, together with the popular fruit and vegetable trade, makes this one of the busiest markets in the world.

The outstanding feature of the Paris fruit and vegetable trade is the vast number of small sales and the comparatively few large-lot sales. A sale equivalent to an American refrigerator-car lot is practically unknown in Paris trading. This is an important point when thought is given to the handling of fruits from the United States in this great city.

DEMAND FOR APPLES IN PARIS

Paris wants a bright, red apple, of medium size—considerably larger than those taken by the English markets. As its choicest dessert variety, the White Winter Colville, is yellow, the market is well prepared for the Yellow Newtown and Ortley if they are grown with an attractive finish. The Winesap and Arkansas Black are also well adapted to this market. The French taste for apples calls for fruit of good quality and not too acid.

After Christmas home-grown apples take on a dull appearance, so midwinter seems a natural period of demand for American apples, but up to the present this demand has not been realized.

Until recently apples grown in the United States were either reexported from British markets to Paris or imported from New York City in small quantities. In the first instance the sizes were unsuitable for French demands. In either case the excessive handling and improper stacking resulted in badly bruised fruit. The French people do not want their fancy apples to have the least bruise or mark. In an average box of American apples only a small percentage arrived fit for the best trade. This resulted in much complaint about present methods of packing and in suggestions that apples for the Paris market should be packed in special cases with cotton-wool padding between layers of fruit, or with egg-case fillers adapted to the size of the fruit. Fancy French apples are handled in this manner, but, owing to high prices, the volume of sale is not large.

It has been found that the most advisable way to meet these demands is to ship apples in carload lots to Paris, removing them from Panama cargoes at continental ports under experienced supervision. This manner of shipping reduces bruising to a minimum and allows ordinary commercial packages to be used, though some special adaptation of the box package may have to be developed to meet the demands of this and other exacting European markets.

Shipments of this character were inaugurated by a commercial firm for experimental purposes in March, 1926. Various sizes and varieties were selected from Panama cargoes at Rotterdam and forwarded to Paris in carload lots, extreme care being taken to see that the boxes were properly loaded on their sides. The trials were encouraging, and resulted in regular car-lot shipments, made from Rotterdam during the winter of 1927. The French market for these apples extended outside of Paris.

It is reasonable to expect that Paris, with its population of about 3,000,000, will, in the course of time, absorb as many apples as

Copenhagen or Stockholm. However, it is a trade that is difficult for nonresidents to develop, so that those who are not in a position to take the responsibility of distributing fruit supplies to a large number of wholesale firms within the country and closely supervising the care given the fruit up to the day of sale will probably encounter disappointment in these quarters.

ORANGE EXPORT TRADE WITH EUROPE

There is a definite tendency toward larger exports of oranges from the United States to European countries. Orange exports from the United States to Europe during the 5-year period 1921–1925 averaged only 52,000 boxes annually, as compared with 252,000 in 1926, and 638,000 in 1927. The United Kingdom takes the bulk of these shipments, but small quantities are shipped to the Netherlands, Germany, Sweden, and other continental countries. Keen competition is encountered in all of these markets from other orange-producing countries. This competition is particularly important during the winter months, and for this reason the bulk of the American oranges are shipped during the summer and fall. (Table 5.)

TABLE 5.—*Oranges: United States exports to the United Kingdom, 1924–1927*

Month	1924	1925	1926	1927	Month	1924	1925	1926	1927
	Boxes	*Boxes*	*Boxes*	*Boxes*		*Boxes*	*Boxes*	*Boxes*	*Boxes*
January	4,753	4,804	75	12,529	August	16,074	2	11,022	83,550
February	3,617	1,022	13,042	18,836	September	8,188	2,839	73,574	76,933
March	8,999	3,366	17,772	20,733	October	17,492	21	0	46,118
April	14,668	4,519	15,689	72,110	November	1,518	89	9,508	501
May	5,183	3,310	22,622	52,672	December	10,041	569	7,102	1,274
June	19,305	5,840	36,191	97,353					
July	4,800	4,946	27,188	121,725	Total	114,638	31,327	233,785	604,334

Monthly Summary of Foreign Commerce of the United States.

COMPETITION IN EUROPEAN MARKETS

WINTER COMPETITION

Oranges from Spain, Italy, and Palestine furnish the principal competition met by oranges from the United States in European markets during the winter months, as the marketing season for these districts is approximately from November to April. Spain is by far the most important source of supply, producing about 15,000,000 boxes of export oranges as against about 4,000,000 boxes from Italy and 2,500,000 boxes from Palestine.

Because of its nearness to the principal consuming countries and the low price at which it can place oranges in these countries, Spain occupies a dominating position in European markets. Spanish oranges sell freely in Great Britain and Germany during the winter at from $2.50 to $4.50 per box.

To estimate the outlook for winter markets for American oranges in Europe, the cost of production in Spain must be considered. From

a survey made in 1925 it appears that growing costs averaged between $2.40 and $3 per thousand oranges (about 80 cents to $1 per half case of 110 pounds) and that the cost of picking, packing, and carting to ports of shipment totaled about $1 per half case. For the oranges shipped to the British market the costs of transportation and selling amounts to about 70 cents per half case. The total cost, therefore, including growing, picking, transportation to, and selling in, the British market, averaged between $2.50 and $2.70 per half case. The production potentialities in Spain are large, and with prices in Great Britain or Germany ranging above $2.75 per half case of 110 pounds, there is good reason to expect that Spanish production will increase to meet the growth in demand. It may be concluded that countries competing with Spain for winter markets in Europe must plan either to deliver and sell oranges at the above figure or to supply a decidedly superior type of orange.

FIGURE 18.—Unloading Spanish oranges from a Mediterranean steamer at Southampton, England

Exports of oranges from the Valencia district, which produces the bulk of the Spanish export oranges, averaged 9,276,000 half cases of 110 pounds during the five seasons 1922–23 to 1926–27, or the equivalent of over 14,500,000 boxes of 70 pounds each. Of this total almost 60 per cent went to Great Britain. Germany with 15 per cent and the Netherlands with 10 per cent were next in importance. Figure 18 shows the landing of Spanish oranges at Southampton, England, and Table 6 shows the distribution of the Valencia oranges in the principal foreign markets during recent years.

TABLE 6.—*Oranges: Exports from Valencia district, Spain, seasons 1922–23 to 1927–28*

Exported to—	1922–23	1923–24	1924–25	1925–26	1926–27	1927–28
	1,000 half cases	*1,000 half cases*	*1,000 half cases*	*1,000 half cases*	*1,000 half cases*	*1,000 half cases*
United Kingdom	5,828	5,294	6,138	5,438	4,715	5,615
Germany	136	1,271	2,242	1,766	1,509	2,255
Netherlands	697	1,276	1,242	1,040	1,002	1,334
Belgium	712	961	962	980	629	905
Norway	173	131	194	136	107	130
Denmark	121	165	107	105	86	122
Sweden	49	51	66	55	61	82
Ireland	201	156	143	106	66	89
Other countries	52	112	63	25	13	3
Total	7,969	9,417	11,157	9,651	8,188	10,535

Compiled from reports of American Consul Clement S. Edwards, Valencia, Spain. Half cases weigh about 110 pounds each.

Italy exports the equivalent of about 4,000,000 boxes of oranges annually. Germany and central Europe are its most important markets. Great Britain is one of the minor markets for Italian oranges, and during late years the takings of that country have shown a declining tendency. Table 7 shows the shifts that have taken place in the Italian orange-export trade during recent years as compared with the years immediately preceding the World War.

TABLE 7.—*Oranges and mandarines: Exports from Italy by principal countries, average 1909–1913, annual 1924–1927*

Exported to—	Average 1909–1913	1924	1925	1926	1927
	Boxes	*Boxes*	*Boxes*	*Boxes*	*Boxes*
Austria	[1] 1,765,918	454,170	671,883	570,706	595,960
Czechoslovakia	----------	152,513	199,988	268,472	280,284
Hungary	----------	58,665	243,507	341,464	374,341
Yugoslavia	----------	89,244	99,597	169,121	170,647
France	26,798	196,616	107,655	38,513	85,301
Germany	598,091	1,715,156	2,018,461	1,562,216	2,009,210
Great Britain	185,003	66,534	59,244	215,828	103,266
Russia	389,545	848	4,596	(2)	(2)
Switzerland	97,786	335,215	294,464	177,077	214,248
United States	38,183	7,315	5,254	7,606	28
Other countries	291,838	411,455	372,793	483,503	576,551
Total	3,393,162	3,487,731	4,077,442	3,834,506	4,409,836

Compiled from Movimento Commerciale del Regno d'Italia for 1909–1913, 1924, and 1925, and from Statistica del Commercio Especiale de Importazione e di Esportazione for 1926 and 1927. Boxes of 78 pounds net weight.

[1] Austria-Hungary.
[2] If any, included in other countries.

Palestine oranges are becoming increasingly important in European markets during the winter. It is now the second largest source of Great Britain's imports. During the 1927–28 season about 1,729,000 cases of Palestine oranges were shipped to Great Britain as against 1,357,000 in 1925–26. The significance of Palestine in the European orange markets lies not only in the quantity but in the quality of the fruit. This fruit is surpassed in appearance and eating quality by few oranges from any source, though the character of

packing in Palestine is inferior to that in most commercial districts. Oranges from Palestine usually sell at a premium over Spanish oranges in the British market. Table 8 shows the shipments of oranges from Palestine to Great Britain and continental Europe during the last three seasons.

TABLE 8.—*Oranges: Exports from Palestine, seasons 1925–26 to 1927–28*

Exported to—	1925–26	1926–27	1927–28	Exported to—	1925–26	1926–27	1927–28
	Cases	*Cases*	*Cases*		*Cases*	*Cases*	*Cases*
Liverpool	485, 436	642, 209	613, 834	Other British ports	61, 655	81, 138	51, 822
Glasgow	250, 859	392, 214	393, 161	Continental ports		109, 624	260, 913
Manchester	291, 215	283, 093	292, 260	Other ports		559	4, 924
Hull	211, 422	318, 964	236, 084				
London	56, 860	157, 321	141, 895	Total	1, 357, 447	1, 985, 122	1, 994, 893

Compiled from Weekly Fruit Intelligence Notes, Empire Marketing Board, London.

From a survey [4] of the citrus industry in Palestine made in 1928 by H. Clark Powell for the Empire Marketing Board it appears that this country has about 10,000 acres planted in orange groves, of which area three-fourths is now in bearing. This authority states that production in Palestine is destined to increase rapidly in the near future and estimates that this source should export 3,000,000 cases by the 1929–30 season.

The report of the survey indicates that Palestine oranges can be grown, packed, transported, and sold in Great Britain at an average cost of about $2.55 per case. This is a greater cost than that found for Spanish oranges since the weight of the Palestine case of oranges is approximately 80 pounds as compared with 110 pounds for the Spanish package. The costs shown include about $1.65 per case for overhead charges, growing, and packing; 65 cents per case for warehousing and transportation; and 50 cents per case for sales charges in Great Britain.

From this analysis it may be concluded that the opportunities for marketing American oranges in Europe during the winter months are not great, though the best Washington Navels from California or the choicest varieties from Florida can be absorbed by the luxury fruit trade even in the face of this competition. In this channel, however, the total outlet is small.

SUMMER COMPETITION

From April until November competition in the European orange market is not at present so formidable. Australia produces in the neighborhood of 2,500,000 bushels of oranges, but only from 30,000 to 40,000 boxes are exported to Europe, and these arrive during the early spring. Brazil ships oranges to Europe during the summer, and the quantity appears to be increasing. The most important summer competition at present comes from the Union of South Africa, whose Washington Navels are marketed in Europe from June until September, and whose Valencias arrive from August

[4] POWELL, H. C. THE CITRUS INDUSTRY IN PALESTINE. Palestine Dept. Agr. Leaflet (Ser. 4) 9, 35 p., illus. [1928.]

until November. The exports of oranges from South Africa have shown a steady growth from only slightly more than 100,000 boxes in 1920 to over 800,000 boxes in 1927.

Production of oranges in South Africa for shipment to Europe during the summer months promises to increase rapidly in future years. According to the 1927 official census of the citrus fruit industry of South Africa, there were 2,535,000 Washington Navel and Valencia orange trees in the country, of which 59 per cent were less than 5 years of age. Tables 9 and 10 give the number of citrus-fruit trees of different varieties in commercial orchards in South Africa during 1927.

TABLE 9.—*Citrus fruit: Number of trees in the Union of South Africa, 1927*

Fruit and Province	Under 3 years	3 to 4 years	5 to 7 years	8 years and over	Total
Oranges: [1]	*Number*	*Number*	*Number*	*Number*	*Number*
Cape	351,025	122,953	148,726	245,092	867,796
Natal	21,903	38,627	40,783	32,809	134,122
Transvaal	575,981	600,335	472,160	400,134	2,048,610
Total	948,909	761,915	661,669	678,035	3,050,528
Grapefruit:					
Cape	44,845	2,790	2,778	5,653	56,066
Natal	2,864	1,215	260	56	4,395
Transvaal	24,095	6,022	2,920	4,092	37,129
Total	71,804	10,027	5,958	9,801	97,590

Compiled from 1927 census report of the Union of South Africa.

[1] Includes tangerines and lemons.

TABLE 10.—*Oranges: Number of trees of different varieties in South Africa, 1927*

Age, years	Washington navel	Valencia	Other varieties [1]	Total
	Number	*Number*	*Number*	*Number*
Over 8	334,464	90,018	253,553	678,035
5 to 7	411,501	198,094	52,074	661,669
3 to 4	393,663	296,026	72,226	761,915
Under 3	408,730	402,090	138,089	948,909
Total	1,548,358	986,228	515,942	3,050,528

Compiled from 1927 census report of the Union of South Africa.

[1] Includes relatively small quantities of tangerines and lemons.

Owing to conditions surrounding production, uniformity in the quality of South African oranges has not been as consistent as it has been in oranges from California. For this reason the European trade has been willing to pay a premium of $1 to $2 a box for Valencia oranges from California in competition with Washington navel oranges from South Africa.

The distance from South Africa to European market is nearly the same as the distance from California, via the Panama Canal, to the same points. South Africa has to pay a freight of 61 cents per box, whereas the Panama rate from California is $1 a box. The best shipping service between South Africa and Great Britain has Southampton as the northern terminal. This necessitates a re-

shipping charge on much of the fruit that moves to northern British markets.

EUROPEAN DEMAND FOR ORANGES

For the most part, medium-sized fruit is wanted in Europe, 176 being the popular size. Large quantities of oranges, smaller in size than 176, are absorbed in Europe, however, and meet a real need among the millions of the poorer classes. In order that large volumes of these "long counts" may go into consumption the price must be moderate, so that the retailer can set a trifling price for each fruit. In Great Britain "1d. each" or "1½d. each" (2 or 3 cents) are usual retail prices in the poorer districts.

For sizes larger than 150 the demand is confined to the fancy-fruit stores unless wholesale prices fall to a low point, as is the case when large-sized fruit from Jaffa arrives in volume during the winter months and sells at auction for from $2 to $4 a box. During these periods large sizes receive a wide distribution. Large sizes

FIGURE 19.—Buyers examining samples of Spanish oranges before an auction sale, at Southampton, England

arriving in Europe must, therefore, be of superior quality and in moderate volume, if satisfactory returns are to be expected.

METHODS OF DISTRIBUTION

Oranges are a principal commodity in maintaining the system of European fruit auctions. The large volume of Spanish oranges consumed are largely handled in this manner. (Fig. 19.) Auction brokers maintain their agents in Spain to finance Spanish packers, who buy the fruit from growers and ship to auction on consignment against a financial advance. Many interests are involved, and consignments are made by and through many different firms.

Jaffa oranges are received in small lots with innumerable marks and brands. Although South Africa has attempted to form an exchange, the actual movement of their oranges has remained uncontrolled, so that many small consignments are sold for the account

of small shippers. Control has gone only so far as to govern grading and financing. Italian oranges are moved in railway cars and are largely bought on order.

Since practically all American oranges reach Europe from California, where approximately 75 per cent of the orange crop is marketed through one exchange, their handling is much more concentrated. Next to bananas, California oranges are marketed the most scientifically of any fruit crop that reaches Europe. With few exceptions, California oranges arrive packed under two brands. They are packed in special export boxes, a fact which, with the cheaper transportation via the Panama Canal, prevents them from competing with similar fruit sold at the New York auction. Figure 20 illustrates a mechanical conveyor for the rapid loading of ships at San Pedro, Calif.

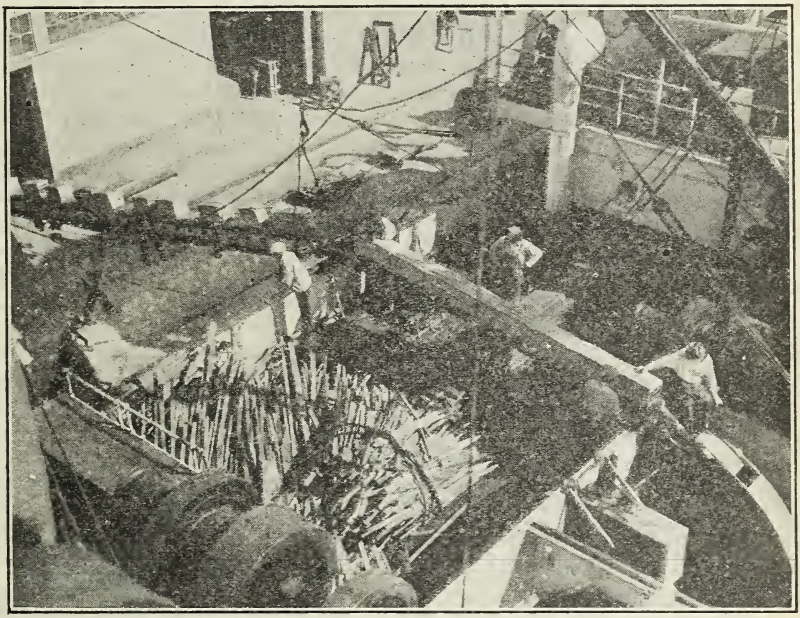

FIGURE 20.—Loading export oranges at San Pedro, Calif. This mechanical conveyor was developed for the rapid and careful handling of oranges when loading refrigerator ships at San Pedro

Fruit exported through the California Fruit Growers' Exchange is marketed as follows: In order to pool export risks and not have consignments made up of several hundred brands, the exchange has produced a special label for the export trade, upon which no mention is made of the association or associations pooling the fruit for shipment. The exchange is empowered to purchase fruit for export shipment under this label, paying the current American prices to the associations. In this manner the exchange has been enabled to standardize the export package and has been enabled to standardize refrigeration and shipment along lines that are known to carry the fruit most successfully to the consumer. The profit-and-loss scheme takes the hazard of export marketing from the treasuries of indi-

vidual associations. A single European agent supervises distribution and sales, using the auction in some markets, selling by private treaty in other markets, but always controlling the quantities offered and withdrawn from sale. In this way a program of marketing is mapped out and followed which results in stabilized prices and rational distribution.

Because of this means of distribution there is not the erratic price fluctuation from week to week that takes place with commodities like apples or Spanish oranges. What is more fundamental, the fruit is being packed and shipped under unified supervision and in a way that eliminates waste, causes the fruit to meet the markets' demands, and feeds the markets as they need to be fed.

GRAPEFRUIT EXPORT TRADE WITH EUROPE

The present sources of supply of grapefruit reaching European markets in significant quantities are the United States, the Isle of Pines, Porto Rico, Jamaica, and South Africa. The States of Florida, California, and Arizona contribute the American quota, of which Florida furnishes by far the largest part. (Table 11.)

Of the competition facing continental American grapefruit growers in European markets, that coming from Porto Rico and the Isle of Pines is the most important. Jamaica is seasonably competitive, but the quality of the fruit and disadvantageous transportation conditions have caused the fruit to be less attractive to European buyers and lower prices have resulted. South Africa and Porto Rico have summer and fall seasons of production and shipment which reduces their competition. (Table 12.)

TABLE 11.—*Grapefruit: Exports from the United States by countries, 1922–1928*

Year	Canada	United Kingdom	France	Germany	Other countries	Total
	1,000 boxes	*1,000 boxes*	*1,000 boxes*	*1,000 boxes*	*1,000 boxes*	*1,000 boxes*
1922	207	10	(1)	(1)	7	224
1923	255	15	(1)	(1)	11	281
1924	249	48	1	1	14	313
1925	283	141	3	4	16	447
1926	228	158	3	3	19	411
1927	301	421	4	9	30	765
1928	260	385	3	6	25	679

Compiled from Commerce and Navigation of the United States, 1922–1927, and official records of the Bureau of Foreign and Domestic Commerce, 1928.

[1] Less than 500 boxes.

TABLE 12.—*Grapefruit: Imports into the United Kingdom, 1920–1928*

Year	United States	Other foreign countries	British South Africa	British West Indies	Other British countries	Total
	Boxes	*Boxes*	*Boxes*	*Boxes*	*Boxes*	*Boxes*
1920	12, 821	1, 056	2, 918	4, 502	677	21, 974
1921	17, 923	4, 931	2, 440	8, 770	254	34, 318
1922	30, 690	809	10, 216	8, 854	----------	50, 560
1923	45, 105	4, 417	12, 509	17, 037	1, 170	80, 238
1924	93, 690	4, 017	15, 768	15, 787	925	130, 187
1925	200, 072	17, 353	21, 837	28, 171	754	268, 187
1926	239, 848	25, 939	20, 997	43, 486	2, 688	332, 958
1927	501, 630	20, 650	27, 744	47, 522	8, 206	605, 752
1928	592, 264	75, 318	26, 210	50, 738	6, 475	751, 005

Compiled from Empire Marketing Board Weekly Intelligence Notes. Vol. II, No. 48. Converted from hundredweight of 112 pounds to boxes of 70 pounds.

European customers do not discriminate between the quality of grapefruit from Florida and California, although receivers are of the opinion that California fruit has a more tender skin and therefore is more subject to decay in transit than is the grapefruit from Florida.

EUROPEAN DEMAND FOR GRAPEFRUIT

Owing to the large visitation of American tourists during the summer months, Europe has an exceptional year-round grapefruit demand. Extremely high prices are paid when supplies are short in the summer in order that hotels may be supplied. So far, demand has been between limits that have caused great price reductions and loss when consignments have been excessive. Each year these limits are expanding and becoming more flexible.

The European demand is strong for sizes 80 and 96; even 112's are taken at higher prices than 64's and larger. Heavy discrimination is made against russets for only bright fruit is in demand.

Demand in continental countries has developed very slowly. Great Britain has been the principal market to expand. Here the liking for grapefruit has grown rapidly, and the outlook is bright for continued expansion. In Germany and the Scandinavian countries there may be a similar growth when the fruit has been properly introduced. Apparently other European countries will take grapefruit only to meet the demand of visitors and a few of the more wealthy citizens.

METHODS OF DISTRIBUTION

One leading brand of Florida grapefruit is purchased in the United States and distributed through British commission merchants by independent American interests. This brand has been advertised to British consumers, is popular, and brings a premium at all times. Besides this well-known brand, many brands of American and West Indian grapefruit are handled in a variety of ways. Some American shippers consign directly to auction brokers or private-treaty salesmen; others have their consignments handled by an agent in London, who may use auction or private sales as the time and fruit may warrant. Much grapefruit is purchased in New York by British importers and afterwards sold at auction or privately.

These independent factors working blindly apart have caused supplies and prices to fluctuate widely and rapidly, so that the situation is unsatisfactory for all concerned. During years of heavy production in Florida many consignments have come forward from the shippers, there has been no control over exports, and the market has often been flooded. During years of short crops, such as 1926–27, exports have been largely left to speculating importers and exporters. Their purchases are light until the hotel demand causes prices on the restricted supplies to reach dizzy heights, whereupon many make speculative purchases without knowledge as to what others are doing. Heavy shipments follow which often depress prices far below the cost of the fruit.

SUGGESTIONS REGARDING EXPORT OF GRAPEFRUIT

Although grapefruit has increased rapidly in popularity, full development demands that consumers be taught more about its season of production and the preparation for serving. Opportunities for increased consumption through introductory information are especially great in continental countries where language has been a barrier to the conveyance of facts. Were the industry organized to provide money for advertising purposes, an expenditure in the European field would be followed by tangible results.

Florida grapefruit shippers would profit by having closer working arrangements with one another and by having a weekly report on total shipments exported. The number of shippers is not so great as to preclude these improvements. Since sources of grapefruit are limited in number, the supply of this fruit should be more easy to control than that of any other that is shipped to Europe. Such an association of grapefruit shippers would demand that each adopt some form of export policy and that these policies be coordinated with operations both at home and abroad under experienced direction.

PEAR EXPORT TRADE WITH EUROPE

Pears are produced in most of the countries of continental Europe. In England the pear crop is very uncertain, for the yield is usually impaired in greater or less degree by spring frosts at blossoming time. The uncertainty of the crop prevents this fruit from being of commercial importance in England, Denmark, Norway, and Sweden. Certain parts of Germany are similarly affected. As a result, the pear is a fruit that undergoes extensive international trading and shipping between the countries of Europe. France, Belgium, the Netherlands, Switzerland, Czechoslovakia, and northern Italy are among the principal commercial sources.

The principal sources of pears imported into Great Britain are shown in Table 13.

TABLE 13.—*Pears: Imports into Great Britain, by countries, average, 1920–1927, annual, 1925–1927*

Country	Average 1920–1924	1925	1926	1927
	Bushels	*Bushels*	*Bushels*	*Bushels*
Belgium	776,655	124,134	1,392,480	1,240,281
France	509,391	157,040	423,889	312,077
United States	278,097	591,806	504,344	446,342
Netherlands	144,410	17,385	119,268	59,172
Germany	120,027	23,988	222,963	36,846
Other foreign countries	45,734	38,214	124,938	72,475
Channel Islands	8,203	1,738	4,525	5,000
South Africa	52,966	127,107	138,268	77,685
Australia	70,005	110,311	100,177	68,833
Canada	47,122	118,662	123,269	69,816
Other British possessions	1,963	9,034	11,471	25,173
Total	2,054,573	1,319,419	3,165,592	2,413,700

Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Countries, 1927. Statistical Office of the Customs and Excise Department. 654 pp. 1928.
Bushels of 50 pounds net weight.

From the standpoint of value France is the most important source. From the valley of the Loire, in the vicinity of Angers, and from the valley of the Seine, between Paris and Vernon, France furnishes Great Britain and other countries with many high-quality pears. The Bartlett (Bon Chrétien William) and Comice (Doyenne du Comice) are two of the choicest varieties. Typical French fruit gardens from which pears are exported are shown in Figures 21 and 22.

Belgium supplies even a greater volume of pears than France, starting with the Beurre Giffard and ending with Easter Beurre (Doyenne d'hiver). The pears shipped from Belgium (Provinces of Limburg, Liege, and Brabant are the principal Belgian pear and apple districts) are not especially attractive in appearance and are sold at low prices. The same varieties are grown practically throughout the continent of Europe. The principal French varieties, as furnished by the French Ministry of Agriculture, are as follows:

FIGURE 21.—An old pear orchard in France near Vernon in the Seine Valley, showing one of the principal methods of commercial production

Ripening July 15 to August 15—André Desportes, Beurre Giffard, Doyenne de Juillet, Epargne.

Ripening August 15 to August 31—Bon chrétien William (Bartlett), Clapp favorite, Docteur Jules Guyot Epine d'été, Précose de Trévoux.

Ripening September 1 to September 15—Beurre d'Amanlis, Doyenne Boussoch, Madame Treyve, Triomphe de Vienne.

Ripening September 15 to October 1—Beurre Hardy, Beurre d'Angleterre, Beurre Superfin, Louise bonne d'Avranches.

Ripening in October—Beurre Gris, Beurre Lebrun, Des Urbanistes, Directeur Hardy, Foncante des bois, Seigneur Esperen, William Duchesse.

Ripening in October and November—Baronne de Mello, Beurre Dumont, Charles Ernest, Conférence, Conseiller à la Cour, De Tongres (Beurre Durondeau), Doyenne du Comice, Duchesse d'Angouleme, Ne Plus Ultra Meuris, Nouveau, Poiteau, Soldat Laboureur.

Ripening in November and December—Beurre Bachelier, Beurre Clairgeau, Beurre Diel, Beurre de Naghin, Triomphe de Jodoigne.

Ripening in December and January—Beurre d'Hardepont, Beurre Sterckmans, Comtesse de Paris, Jeanne d'Arc, La France, Le Lectier, Madame Ballet, Passe Colmar, Prince Napoléon.

Ripening January to March—Belle des Abrès, Bergamotte Esperen, Beurre Naghin, Doyenne d'Alencon, Doyenne d'hiver (Easter Beurre), Josephine de Malines, Passe Crassane, Olivier de Serres.

Cooking pears—Curé (Vicar of Winkfield), Martin sec.

Show-window variety—Belle Angevine.

Two principal outside sources for the pears consumed in Germany and the Scandinavian countries are the upper Adige Valley of Italy and the valley of the Elbe River in Bohemia, Czechoslovakia. A typical Czechoslovakian orchard is shown in Figure 23. Germany is also furnished with French and Dutch pears and with large quantities of home-grown pears, the heaviest production coming from the Rhine Valley in Bavaria. Wurttemberg, Saxony, Badinia, Rhenish Prussia, and Silesia are important for home-grown pear production.

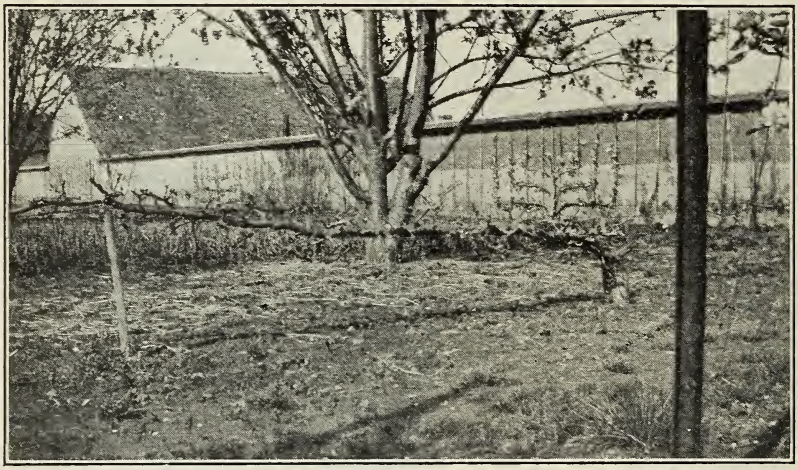

FIGURE 22.—Mixed fruit culture in a commercial garden in France. Note the dwarf apple tree trained to a wire along the ground, cherry trees, and in the background peach trees in espalier form against the garden wall. Vernon, Normandy, France

Potential sources of pear production in Europe are abundant. The paragraphs regarding the potential production of apples in Europe apply also to pears. Many of the pears grown in Belgium and the Netherlands are trained against walls or grown in gardens on dwarf stock. Not many are grown as standard trees. In Switzerland, Czechoslovakia, Bavaria, and Italy standard trees are used, but with such trees "meadow culture" predominates. It is difficult to find commercial pear orchards in Europe that resemble American pear orchards. Small gardens, from one-fourth to 3 acres in extent, with many kinds of fruit trees, come the closest to commercial pear production, and the long rows of pear trees across the grainfields of Bohemia most closely resemble commercial pear orchards as we know them.

But even in Bohemia, where the pear flourishes, the fruit when mature is picked in baskets or bags and emptied in the open bins of a river barge to be carried in bulk to the German cities, there to be sorted and sold by weight. By modern orcharding and the use of refrigeration in transportation and storage, Europe could soon supply all the pears needed even during the American shipping season.

South Africa and Australia are becoming increasingly important as sources of British pear imports. (Table 13.) The Bartlett season of South Africa places the fruit from the Southern Hemisphere on the European market before American Winter Nelis have finished. The first arrivals of this popular variety are seen late in January or early in February. South African pears are on the market for the remainder of the winter and are joined by pears from New Zealand during the month of March. These, together with Australian pears, continue during spring months. The season closes at the end of June.

FIGURE 23.—Pear orchards in Czechoslovakia. The growing of crops between rows of fruit trees is a common practice in Bohemia and other countries of Central Europe

EUROPEAN DEMAND FOR AMERICAN PEARS

The demand for American pears opens as soon as the French Bon Chrétien William (Bartlett) is off the market. The early demand depends upon the size of the European crop. California Bartletts are first in demand because this variety is wanted as long as it arrives in an edible condition. Few Bartletts from Oregon and Washington are received, but New York State always sends its quota—packed in barrels. Recent development in packing Bartlett pears in special tin containers, using patented processes for retarding ripening, has enabled that variety to be shipped successfully via the Panama Canal, extending the season for California Bartletts in Great Britain until the middle of October.

Immediately following the Bartlett, the Beurre Hardy is in demand. The Howell is heavily discounted on account of its short

life after being exposed for sale. Anjou is a favorite for general distribution, and the Comice is the choice for the fancy-fruit trade. The Winter Nelis has a longer season than any other American pear (except the Kieffer) and is wanted as long as it arrives in sound condition, after Beurre Hardy and Anjou have finished. The Winter Nelis is preferred fully russetted.

Medium sizes (135 to 165) bring the highest prices, though some sections of the fruit trade can always dispose of the smaller sizes of Winter Nelis. The standard pear box is suitable for most varieties, though extra-fine fruit, such as Comice, should be packed in half boxes strapped together. Both types of box should be heavily padded to prevent bruises.

The barrel is an unsatisfactory container for export pears. If boxes can not be used, the tub-shaped bushel basket should be employed. Even such tough varieties as the Kieffer arrive decidedly slack and with more or less waste when packed in barrels.

METHODS OF DISTRIBUTION

Pears are distributed in European countries in much the same way as are apples. Possibly a greater proportion of American pears are sold at auction on account of the perishable nature of the fruit, which often demands immediate disposal and consumption.

Some packers in the United States make a practice of sending consignments of pears to Europe each year. Except for the Kieffer variety, pears flow to Europe in quantities that fairly well meet the demands. This comes about through the operation of speculating importers who buy current requirements on the New York auction. As there is sometimes a difference between prices for pears in different European markets, it is profitable for the shipper to have a European distributor who will divert from one market to another.

SUGGESTIONS REGARDING EXPORT OF PEARS

Unless a shipper is prepared to supervise carefully the picking, packing, and shipping of pears, no attempt should be made to export to Europe. Each year tremendous losses are sustained by shippers of Hudson River Bartlett pears because attention is not paid to details. The barrel, a wholly unsuitable package, is used. Small attention is given to grading. No refrigeration is given between tree and ship. Frequently delays occur in the shipping, and the pears are stowed in a ship's refrigerator chamber that already has a heavy load of hot apples. As a result, more Bartlett pears from this district arrive in Europe in a bad condition than in a sound condition. Hence prices are more likely to be unsatisfactory than satisfactory.

The Kieffer variety which, during some seasons, is used in Europe for a cheap stewing pear, suffers loss from the same causes.

Pears from the Pacific coast (where close attention is given to maturity at picking, precooling, and careful packing) frequently meet with disaster because they are placed with hot fruit from eastern districts in the ship's refrigerating chamber. Shippers should make certain that pear consignments do not move in chambers that are

filled with hot apples from the Southeast. It would be safer to avoid ships or ports that traffic heavily in hot fruit, at least during certain weeks of the year.

AMERICAN-GROWN ITALIAN PRUNE EXPORT TRADE WITH EUROPE

The outlet for fresh plums from the United States is not great, for the plum is an important item among European fruits and is grown in nearly all European countries. A few fancy plums from California find their way to Great Britain, but, owing to cheap supplies grown at home and the risk and cost of shipping, the outlet is very restricted until home-grown supplies are out of the way.

Fresh prunes from Washington and Oregon arrive in Great Britain before home supplies are exhausted. They are shipped under conditions that are not very favorable. They are harvested and shipped during rather warm weather so that their condition upon arrival in Europe often leaves much to be desired. For these reasons, exports of plums from the United States to Europe are confined chiefly to consignments of Italian prunes from Idaho to Great Britain. Idaho enjoys a preference in this business because of a later and cooler season and because it produces a superior shipping fruit.

Methods of distributing fresh prunes in Europe are much like those employed for apples. Both auction and private selling are in vogue. The demand is for fruit packed in 4-basket crates. "Suitcases" are less attractive in appearance when they arrive, and the fruit in them is in poorer general condition. Fruits become squeezed at the bulge of the lid of the suitcase and decay follows. Frequently, when two suitcases are strapped together for shipping, the cleats of one suitcase slip to the lid of the companion package and injurious squeezing follows. The trade is willing to pay from 35 to 50 cents more for a 4-basket crate of Italian prunes than for a suitcase.

EXPORT MARKETING OF OTHER FRUITS AND VEGETABLES

Only small quantities of the other fruits common in American commerce are consumed in Europe. Limited quantities of cranberries and peaches, lettuce and sweet potatoes reach some European markets, principally in Great Britain. Cranberries are growing in popularity.

American cranberries meet their most formidable competition from Dutch-grown fruit, which resembles that from America but has a shorter marketing season. As it is looked upon as a speciality fruit, distribution is not handled through the auction but through a limited number of controlled private-treaty houses. Since the sources of this fruit are limited and demand is small, this seems the most satisfactory way to distribute. An increased use of cranberries is observed in Great Britain; apple and cranberry tart is a popular dish over a long period.

Georgia and New Jersey have exported peaches to Great Britain in 6-basket crates, and California supplies a limited quantity. The principal competitors are peaches from the Piedmont section of Italy, and those grown in English hothouses. The demand is for white-fleshed peaches. The trade is limited and will so continue, because the peach is looked upon as a luxury fruit to be bought at a high price and served uncut. California canned peaches supply all other wants more economically than they can be met through the shipment of fresh fruit. General familiarity of the European population with sliced fresh peaches served with cream seems remote because there is practically no local outdoor production, and the imported peaches are too expensive for such use.

Incidentally, American head lettuce has been introduced into Great Britain rather recently, and some sweet potatoes are brought in. During December, January, and February there is a good opening for lettuce in European markets as the product from southern France arrives in but limited quantities. As European lettuce has loose heads, it is used as a salad, but not in the same form as lettuce is used in the United States. Therefore, it will require time to create a demand for solid heads. Transportation costs of approximately $3 a crate from the Imperial Valley of California to Liverpool, represent a decided handicap to the widespread introduction of American head lettuce.

Sweet potatoes find a limited outlet in European countries. In cities like Paris and London fancy fruiterers import a few hampers each year, principally for American-born residents. There should be an opportunity to expand an outlet for sweet potatoes in Europe, providing energetic introductory methods were adopted. The sweet potato industry of the United States has not as yet given attention to this matter.

RECOMMENDATIONS

Fruit marketing in Europe is a many-sided process, difficult to understand thoroughly. There are many features in this distant marketing of perishable commodities which make the growers' risks great. To the grower who is baffled when confronted with these complexities and who asks "How am I to proceed to market my fruit in export markets and take advantage of the information given in this publication?," the following suggestions are given.

The first and most important consideration is the fruit itself. Information given under "Specialized demands in European markets" (p. 19) should be studied. The grower or shipper must be certain that he has a commodity that is in demand in foreign markets, and he must grade and pack the fruit so that its full value may be realized.

TO THE SMALL GROWER

The small fruit grower should endeavor to link his operations with those of other producers who are in a similar situation. The most practicable way to do this is through a cooperative association or through a fruit buyer. It usually does not pay to operate independently in a small way because the few barrels of apples or boxes

of fruit may go forward at just the wrong time and may reach a market in Europe during a week when markets are glutted and when prices are unbelievably low. Or the consignment may be placed in a warm part of a ship and suffer high temperatures, with excessive ripening and decay, resulting in losses which he can never recover. Or the small operator may be influenced to consign his fruit to overseas' distributors whose honesty and sales efficiency he has no means of knowing.

The large grower, the cooperative association, and the fruit buyer, having thousands of barrels or boxes to market, are in a position to ship every week in many ships and to many markets, and are therefore in a position to average the losses taken on overripe fruit and during bad periods with the profits on successful arrivals, when prices are high. They are in a position to know a great deal about their European connections. They can take the export risks because they can spread their risks as a small grower can not spread them. The large shipper who attends to the details of satisfactory packing and shipping wins a premium through the establishment of his reputation with foreign merchants. It is easier to secure this premium through large or continued operations than it is on a few consignments, because the small shipper's name appears only on limited quantities during a few weeks and then is not seen until another year, when it has probably been forgotten.

There are always exceptions among small growers. Early maturity, long-keeping quality, or some other outstanding advantage in his product may be great enough to offset the great hazards taken by the grower in making small consignments. Those small growers who are in this position should make the greatest effort to become acquainted with the most reliable American exporting agents and then should follow their advice, even though it means a few cents extra for commission costs. The small shipper should determine which market prefers the kind of fruit he has to ship, and instead of spreading out over many markets, as the large shipper should wisely do, he should place those small consignments in one market in an effort to become known. Unless trying to reach advantageous, early markets, the small grower would do well to join other grower clients of the agent in order to make car-lot shipments, which should be spread over as many weeks as seems safe for the good carriage of the fruit.

TO THE LARGE SHIPPER

Good European brokers are necessary. Each year American shippers continue to take chances with unknown and unreliable agents. Even with a capable and responsible European salesman operations must be coordinated and a decision must be made as to whether this is to be done in America or in Europe. In the case of eastern-grown fruits, it can be done in New York. In the case of fruits shipped from the Pacific coast, the movement of which via the Panama route is more or less inflexible, European brokers should have a central control at some point in Europe. For purposes of diverting fruit from one European port market to another an overseas control of brokers is important under any shipping circumstances.

There are three general ways of synchronizing the efforts of European brokers; (1) through a general European agent who has full responsibility of allocating consignments and controlling sales; (2) through a European brokerage house which has branches in the principal markets; and (3) through a single American agency which has independent or related brokerage houses throughout Europe. The time has passed when the American shipper can profitably consign direct to individual auction brokers, avoiding one of these three forms of organized distribution.

The large shipper can not afford continually to change from one outlet to another during the season. Many advantages accrue through the working together of shippers and brokers over a long period of years. The claim that one auction broker can realize higher prices than another during a given sale for similar fruit can be substantiated only under exceptional circumstances. To consign to two brokers in the same market with the belief that they will compete with one another in order to see which may make the higher returns is to act upon false premises. It leaves the buyer entirely out of consideration. A broker who has sole disposition of one line of goods on a given market is in a much stronger position to obtain maximum prices than he is when similar fruit is being sold by competing brokers.

Having established a reliable connection, the large shipper should follow the advice of his representative as closely as possible. Keeping continually on the market makes it possible to average returns in low-price periods with returns during high-price periods, although due attention must be given to weekly volume of movement. Large shippers safeguard their own interests not only by restricting shipments during weeks of excessive exportation, but also by giving information regarding the situation to small shippers and growers, who may not be well informed.

The wisdom of the policy of distribution of consignments over many markets has limitations, depending upon the size of a shipper's operations. Many a large shipper fails to feed one market with his brand consistently enough to make its merits felt and competed for. This is an important consideration if a given brand or mark has merits and if it arrives abroad in uniformly good condition.

Many large shippers of American fruits in the past have sacrificed the consideration of packing and shipping details to volume of business. To avoid this there must be organization for supervising operations in the orchard and packing house.

TO THE COOPERATIVE EXCHANGE

The cooperative association as well as the exchange requires a means of pooling export returns before progressive achievements in building up foreign markets can be made. Such pooling may be done by purchasing fruit at nominal prices from the various local or seasonal pools, by making special export pools for certain sizes (kept apart from the other pools), or by using the regular variety pools, in the case of large associations which do not have local units.

The present method of supplying fruit to European markets makes it insistent that growers' cooperative organizations deliver their fruit

to European points so that they will make a place for their brands in the minds of the buyers. Without a foundation upon which to build a consignment policy—and this foundation is the ability to average the good returns with the poor—an association or exchange is dependent upon f. o. b. buyers. On long-distance operations, such buying must be based upon large margins. The conservative policy of keeping exclusively to f. o. b. sales is not one which will greatly extend export outlets.

The policy of keeping a brand before the buyers in greater or smaller quantities, regardless of general market conditions, is important if the brand has merits. This can not be done without making continuous consignments to selected market centers. Fruits that require introduction are in special need of delivery to market points.

The buying power of the people in Europe is far below that in the United States. Costs of transportation and distribution are higher. This combined situation calls for economies wherever possible if producers are to market larger volumes abroad and receive satisfactory returns. Large producers' cooperative marketing organizations have the opportunity of making economies in export marketing by separating domestic from foreign business and not assessing domestic costs on foreign business. If volume of business warrants it, an economy can be effected by maintaining a foreign representative and making arrangements with brokers to sell on the basis of spot charges. This means that the organization must provide its own financial requirements, which in itself paves the way for additional economies.

The maintenance abroad of an officer of an exchange or association offers several advantages in addition to that of economy. Knowledge of production in direct contact with the market and knowledge of the market in direct contact with the producer is essential for quick adjustment from inefficiency to efficiency at both producing and distributing points. In several instances such shifts have been brought about by such representation. Withholding from sale, choice of time of sale, displaying of samples, use of care in handling, use of European cold storage, and advertising are all features that may be improved if the producer has a representative on the market.

If a large association has control of a certain commodity, or even of a certain brand of distinction, it is a mistake to attempt to sell a part of the output in such a way that it comes in competition with another part, in districts where auction sales are being used. Unless the European representatives in charge of distribution have control of the commodity in their area of distribution their whole position may be defeated by a few thousand packages sold at shipping point. This repeatedly happens, either because the f. o. b. purchases have been handled in such an unsatisfactory way that they arrive in poor condition, or because the buyers or their customers have used poor market judgment.

TO EXPORT AGENTS

The honest dissemination of information regarding export markets and the standardization of American fruits and vegetables are two fundamentals which call for attention and support. Through these the business of the agent may be made more profitable and pleasant,

and the volume of exports in general increased. Unreliable information relating to packing methods, grading, marking, volume of exports, prices, and methods of refrigeration and shipping is causing the American producer great wastage and loss and is hindering the progressive growth of much wholesome and profitable business.

The true function of the export agent is service, and he is entitled to be adequately compensated for giving service. Such service should include, besides the handling of financial advances, billings, and forwardings, a certain degree of supervision over packing and marking, giving advice on cold-storage and refrigerated shipments, and giving suggestions on cultural methods known to produce fruit that is adapted to export markets. The export agent has opportunities for widening his field of service through participating in any industrial movements that tend to make our foreign trade in fruits and vegetables more rational, more profitable, and more permanent.

SUMMARY

The exportation of fresh fruit from the United States to Europe, begun in the eighteenth century, has made constant progress, in keeping with transportation developments. Apples have constituted the predominating fresh-fruit export; therefore the marketing of American apples in Europe largely represents the methods used for American fruit distribution in general.

As apples are grown in most European countries, the competition of home-grown supplies influences demand for and prices of fruit grown in the United States. Home-grown fruit has its greatest influence on the demand for barreled apples; Canadian competition influences the outlets for both barreled and boxed apples. Australian and New Zealand competition is effective after the middle of April. Social and political circumstances in Europe have hindered the commercial development of fruit production, although if the potential possibilities in production were ever realized Europe could be self-supporting in regard to apples. In the course of many years the importation of apples from the United States and Canada may be only a fraction of what it is to-day.

Apples are largely consigned to European fruit brokers, who may sell by auction or privately. In developing this trade the European fruit broker has furnished the enterprise, and the American fruit grower has taken the last margin of risk by being willing to consign fruit against limited cash advances. American agents of the European fruit brokers have assembled consignments of barreled apples, whereas cooperative associations and commercial fruit distributors have performed this service in western fruit districts.

Most fruit that arrives in England is cleared through the ports of Liverpool, London, Glasgow, Southampton, Manchester, Hull, Cardiff, Bristol, or Newcastle-on-Tyne. Liverpool is an example of a port in which most arrivals are sold at auction; in London private selling predominates.

Supplies of apples in Great Britain are fluid, so that prices at interior points quickly correspond to port auction prices. Consigning to interior markets at the expense of the demand at port markets is not recommended so long as consignments from the United States

and Canada are not under a unified control at their source. Diverting from one port to another, or from one country to another, is frequently advisable. Diversions and the use of cold storage to protect consignments demand comprehensive representation abroad.

The Continent of Europe is supplied by auction through the ports of Antwerp, Rotterdam, Bremen, Hamburg, and Copenhagen, and by shipments on direct order for Norway and Sweden. Large interior cities, like Berlin and Paris, are not destined to become important primary markets.

Early booking of Scandinavian orders is a handicap to the fruit business. Booking should be postponed until prices are more firmly established. Inclusion of large-sized fruit in barrels marked as small-sized apples is also a handicap. If lots are destined for Scandinavian countries inspection certificates should describe both size and color. Reliable Scandinavian agents are indispensable to the American shipper.

France receives only small shipments of American fruit, partly because of abundance of home fruits and partly because the international fruit traders are few. The French market wants very choice unblemished apples, of medium to large size, from January until April. If boxed apples from the United States are to arrive in France without bruises they must be sent in car-lot shipments, on a ship through the Panama Canal, under careful supervision. During years when France has a short apple crop, as in 1928, there is a demand for apples less expensive than those from the Pacific Coast and at such a time barreled apples from the Eastern States are in demand.

In general, European countries will take shipments of any of the standard varieties grown in the United States in season, although varieties which do not have good carrying qualities are unpopular. Certain markets will pay more for preferential varieties than other markets.

The greatest demand for apples in Great Britain is from September to April. Later in the fall comes the Scandinavian demand. Germany and the Netherlands do not ordinarily take heavy quantities until after December 1. Specialized requirements as to sizes should receive close attention; small-sized apples should not be placed in markets in which there is a preference for large or medium sizes.

Costs of fruit distribution are relatively higher in Europe than in the United States. A part of the cost is related to assembling and forwarding expenses in the United States. Most European brokers have two sources of revenue—the commission charged and the assessed handling charges.

Apples shipped in export are subject to more than twice the handling that is received by fruit in domestic trade, so that special attention must be given to the container and to packing methods in order to secure maximum returns. Slack barrels may be prevented largely through attention to packing details.

Refrigeration in storage and transit has made possible a large part of the winter export market. A great source of loss might be avoided by the further use of refrigeration for cooling barreled apples during the early shipping season. The practice of cold storing

American apples after arrival in Europe is slowly growing, but is still fraught with difficulties and is full of danger unless great caution is used. The greatest recent extension in the use of refrigeration has been in connection with shipments of boxed apples from the Pacific coast via the Panama Canal.

Transcontinental shipments of fall apples intended for export should be ordered under refrigeration. Standard ventilation embodies excessive risks. Winter railway shipments should be ordered under carriers' protective service.

Upon request, the food products inspection service of the United States Department of Agriculture certifies as to condition of apples and character of grade and pack. When condition is referred to, the lot is spoken of as "meeting United States export standards" or "not meeting United States export standards." This inspection service is available at original shipping points and at United States ports.

The foreign service of the Department of Agriculture assembles, analyzes, and disseminates intelligence on foreign competition and demand. Agricultural commissioners and a specialist on fruits and vegetables are stationed abroad in the service of American producers.

Fruit-advertising campaigns are being conducted by importing brokers in Great Britain, Germany, and Denmark, and in Gothenburg, Sweden. The effect has been increased fresh-fruit consumption.

Cheap oranges from Spain and Palestine during the winter restrict this outlet for American fruit largely to the summer months. California oranges are marketed in Europe more efficiently than are any other American fruit.

Grapefruit has had a rapid increase in demand throughout Great Britain, but has not been well introduced into continental countries. Erratic competition between many shippers in Florida, the West Indies, and California emphasizes the need for coordination of shipping efforts among producers.

American pears meet competition from many countries, but they are marketed in Great Britain much as are apples. The demand occurs from September until February, and is for intermediate and late varieties of medium sizes. Severe losses are experienced by exporters from the Hudson River Valley of New York on account of the unsuitability of the barrel package.

Great Britain furnishes an outlet for fresh Italian prunes from Idaho. Shipments from areas of earlier production do not arrive in good condition and conflict with home-grown plums.

A limited quantity of cranberries, peaches, lettuce, and sweet potatoes are exported each year to Europe. The demand for cranberries should grow steadily, but peaches, lettuce, and sweet potatoes are beset with handicaps that promise to limit their use in export trade with Europe.

APPENDIX

TABLES

TABLE 14.—*York Imperial apples:*[1] *Price per barrel at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	1925–26	1926–27	1927–28	Date	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*		*Dollars*	*Dollars*	*Dollars*
Sept. 7		8. 52–9. 25	6. 08–8. 15	Dec. 14	7. 52–8. 24	4. 38–5. 47	6. 69–8. 52
Sept. 14		8. 03–8. 76	4. 87–6. 08	Dec. 21		4. 20–5. 35	
Sept. 21			6. 33–6. 81	Dec. 28		4. 38–5. 11	
Sept. 28		6. 45–6. 81	7. 30–8. 27	Jan. 4	6. 91–8. 00	5. 35–5. 96	8. 27–8. 76
Oct. 5	3. 99–7. 02	4. 62–6. 08	8. 76–9. 25	Jan. 11	7. 89–9. 23	4. 38–4. 87	7. 91–8. 39
Oct. 12	5. 32–7. 74	4. 56–5. 84	8. 52–9. 25	Jan. 18	8. 15–9. 24	5. 35–5. 84	7. 79–8. 52
Oct. 19	6. 54–7. 26	5. 35–5. 84	6. 81–7. 30	Jan. 25	6. 81–8. 52	4. 87–6. 33	7. 06–8. 64
Oct. 26	5. 82–6. 54	4. 38–5. 60	6. 81–7. 30	Feb. 1	6. 57–8. 27	4. 87–5. 47	7. 30–8. 39
Nov. 2	5. 96–6. 45	3. 95–4. 62	6. 33–6. 93	Feb. 8	7. 06–8. 27	4. 62–5. 84	7. 79–8. 52
Nov. 9	6. 30–7. 03	4. 38–4. 62	6. 08–6. 57	Feb. 15	6. 57–8. 27	3. 65–6. 08	8. 03–8. 76
Nov. 16	6. 30–6. 78	4. 01–4. 38	6. 57–7. 18	Feb. 22	7. 91–8. 76	4. 62–6. 33	
Nov. 23	6. 66–7. 27	3. 41–4. 01	6. 69–7. 30	Feb. 29	9. 25	2. 43–3. 41	9. 25–9. 37
Nov. 30	6. 06–7. 51	3. 65–4. 62	6. 57–6. 81	Mar. 7	8. 52–9. 73	2. 43–3. 59	9. 25–9. 73
Dec. 7	7. 27–7. 76	4. 38–4. 87	6. 57–7. 54	Mar. 14		3. 04–4. 14	

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[1] Grade: United States No. 1, 2¼ inches and over.

TABLE 15.—*Yellow Newtown, Albemarle Pippin apples:*[1] *Price per barrel at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	1925–26	1926–27	1927–28	Date	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*		*Dollars*	*Dollars*	*Dollars*
Sept. 14		6. 33–6. 57	3. 71– 4. 87	Jan. 25	6. 08–7. 30	7. 06	[4] 8. 15– 8. 27
Sept. 21		6. 57–7. 30	[2] 3. 65– 4. 44	Feb. 1	7. 79–9. 49		[3] 7. 30– 8. 64
Sept. 28			4. 20– 5. 84	Feb. 8	6. 08–7. 30		
Oct. 5	4. 84–6. 05		[2] [3] 3. 95– 5. 35	Feb. 15	6. 33–7. 30	7. 30–8. 03	9. 49– 9. 73
Oct. 26	7. 03			Feb. 22	6. 81–8. 03		
Nov. 2	5. 82			Feb. 29	6. 57–6. 81	6. 08–7. 30	9. 73–10. 95
Nov. 16	11. 15			Mar. 7	7. 91–9. 00	6. 08–7. 42	9. 49–11. 92
Nov. 30	7. 99–9. 93			Mar. 14	7. 79–9. 73	5. 35–6. 08	11. 19–12. 04
Dec. 7		6. 57		Mar. 21	7. 30–9. 73	6. 33–6. 57	10. 95–13. 15
Dec. 14	7. 47–9. 58		6. 08– 6. 20	Mar. 28	7. 06–8. 76	7. 30–7. 91	10. 95–11. 92
Jan. 4	7. 40–7. 83		7. 30– 8. 76	Apr. 4	6. 45–7. 79	7. 30–8. 52	11. 68–12. 17
Jan. 11		6. 08	[3] 7. 30– 7. 66	Apr. 11	6. 81–8. 64	6. 08–8. 64	10. 46–11. 68
Jan. 18	8. 27			Apr. 18		5. 60–8. 52	

Received weekly by cable from the London office of the Bureau of Agricultural Economics.

[1] Grade: United States No. 1, 2¼ inches and over.

[2] Poor condition.

[3] Unclassified.

[4] United States No. 1, 2½ inches.

TABLE 16.—*Baldwin apples:*[1] *Price per barrel at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	1925–26	1926–27	1927–28	Date	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*		*Dollars*	*Dollars*	*Dollars*
Sept. 14	----------	----------	3. 71–4. 87	Jan. 11	4. 98–6. 31	4. 14–5. 84	5. 84
Sept. 21	----------	----------	4. 87–5. 35	Jan. 18	4. 86–5. 11	5. 96–6. 57	----------
Sept. 28	----------	----------	6. 93	Jan. 25	4. 87–6. 45	4. 87–6. 81	----------
Oct. 5	4. 84–5. 81	----------	----------	Feb. 1	4. 87–6. 33	5. 60–6. 57	7. 30–7. 42
Oct. 12	6. 05–6. 53	----------	----------	Feb. 8	5. 11	5. 47–7. 06	----------
Oct. 19	----------	5. 35–5. 72	7. 42–7. 66	Feb. 15	4. 87–6. 08	4. 62–6. 69	----------
Oct. 26	6. 06–6. 91	4. 38–4. 62	[2] 4. 74–4. 87	Feb. 22	5. 47–6. 08	4. 26–5. 35	7. 42–8. 03
Nov. 2	4. 85–5. 72	3. 71–4. 50	[3] 5. 11–5. 23	Feb. 29	5. 47–5. 96	3. 89–4. 87	6. 20–7. 30
Nov. 9	5. 09–6. 18	4. 14–4. 87	5. 35–7. 06	Mar. 7	5. 84–6. 33	4. 32–5. 35	[3] 6. 57
Nov. 16	4. 24–5. 33	3. 89–4. 50	----------	Mar. 14	4. 87–7. 30	4. 38–5. 47	----------
Nov. 23	5. 81–6. 06	3. 16–4. 62	----------	Mar. 21	5. 35–6. 08	4. 62–5. 84	----------
Nov. 30	4. 21–4. 51	4. 87	----------	Mar. 28	4. 81–6. 69	5. 35–5. 84	----------
Dec. 7	4. 85–5. 33	5. 23–6. 08	7. 06–8. 15	Apr. 4	4. 60–5. 84	5. 35–6. 33	8. 52–9. 73
Dec. 14	5. 21–6. 55	3. 71–5. 84	----------	Apr. 11	4. 32–5. 96	4. 87–7. 06	----------
Dec. 28	----------	4. 44	----------	Apr. 18	----------	5. 84–6. 81	----------
Jan. 4	4. 37–4. 85	4. 87–6. 57	----------				

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[1] Grade: United States No. 1, 2¼ inches and over. [2] Poor condition. [3] Unclassified.

TABLE 17.—*Ben Davis apples:*[1] *Price per barrel at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	1925–26	1926–27	1927–28	Date	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*		*Dollars*	*Dollars*	*Dollars*
Sept. 14	----------	----------	4. 38–5. 11	Jan. 4	5. 34–5. 82	4. 68–5. 84	----------
Sept. 21	----------	5. 84–7. 54	4. 87–5. 60	Jan. 11	5. 83–6. 80	----------	----------
Sept. 28	----------	5. 47–6. 96	6. 20–6. 33	Jan. 18	5. 47–6. 32	5. 35–6. 08	----------
Oct. 5	4. 24–6. 29	5. 35	7. 79–7. 91	Jan. 25	5. 47–5. 84	5. 23–5. 96	----------
Oct. 12	6. 05–6. 53	7. 06	7. 79–7. 91	Feb. 1	4. 38–6. 08	5. 35–6. 33	6. 69–6. 81
Oct. 19	6. 05–6. 54	4. 62–4. 87	6. 81–7. 30	Feb. 8	4. 87–5. 60	5. 47–5. 84	5. 84–6. 81
Oct. 26	4. 85–6. 06	4. 14–4. 38	6. 20–6. 81	Feb. 15	4. 38–5. 11	4. 38–5. 72	4. 87–6. 20
Nov. 2	4. 85–5. 72	3. 41–3. 89	5. 60–5. 96	Feb. 22	5. 35–6. 20	5. 60	[2] 4. 74
Nov. 9	4. 48–5. 57	3. 77–4. 14	5. 60–5. 84	Feb. 29	5. 72–6. 08	4. 38–4. 62	5. 84–6. 08
Nov. 16	4. 12–5. 33	4. 01–4. 14	5. 35–5. 84	Mar. 7	5. 84–6. 08	4. 01–4. 08	5. 84–6. 08
Nov. 23	4. 84–5. 57	3. 41–3. 65	5. 47–6. 08	Mar. 14	5. 11–5. 84	4. 14–4. 38	6. 57–7. 42
Nov. 30	4. 12–5. 33	3. 89–4. 68	5. 35–5. 47	Mar. 21	5. 47–5. 60	4. 38–4. 81	----------
Dec. 7	3. 64–4. 61	3. 77–4. 32	5. 35–5. 72	Mar. 28	4. 87–5. 72	4. 38–4. 87	5. 96–6. 69
Dec. 14	4. 85–5. 33	3. 89–4. 14	5. 47–5. 96	Apr. 4	3. 95–4. 68	4. 38–4. 62	----------
Dec. 21	----------	3. 65–3. 71	----------	Apr. 11	5. 60–5. 84	----------	----------
Dec. 28	----------	4. 26–4. 62	----------				

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[1] Grade: United States No. 1, 2¼ inches and over. [2] Unclassified.

TABLE 18.—*Winesap apples:*[1] *Price per barrel at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	1925–26	1926–27	1927–28	Date	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*		*Dollars*	*Dollars*	*Dollars*
Oct. 12	5. 08–6. 53	----------	----------	Jan. 18	----------	----------	[3] 7. 54
Oct. 19	----------	5. 72–6. 57	----------	Jan. 25	----------	6. 08–6. 57	[3] 7. 30
Oct. 26	6. 08–6. 67	4. 87–5. 35	----------	Feb. 8	----------	5. 35–6. 20	[2] 7. 30
Nov. 2	5. 82–6. 30	4. 32–4. 56	7. 30–7. 91	Feb. 15	----------	4. 74–6. 33	[4] 7. 06–8. 54
Nov. 9	----------	4. 14–4. 38	7. 30–7. 91	Feb. 29	----------	4. 38–5. 35	[2] 7. 30–8. 03
Nov. 16	5. 94–6. 30	3. 89–4. 14	6. 93–7. 42	Mar. 7	----------	3. 41–4. 38	----------
Nov. 23	6. 54	3. 89–4. 14	6. 57–8. 27	Mar. 14	----------	3. 89–4. 38	8. 52–9. 12
Nov. 30	----------	----------	[2] 6. 08–6. 81	Mar. 21	----------	5. 11–5. 47	8. 52–9. 37
Dec. 7	----------	3. 89–4. 26	7. 30	Mar. 28	----------	4. 87–5. 35	----------
Dec. 14	5. 33–7. 40	4. 14–4. 62	7. 18	Apr. 4	----------	5. 35–6. 08	----------
Jan. 4	----------	4. 38–5. 23	7. 79–8. 03	Apr. 11	----------	----------	7. 79–8. 27
Jan. 11	----------	----------	7. 79–8. 03				

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[1] Grade: United States No. 1, 2¼ inches and over. [2] Unclassified. [3] Poor condition.
[4] United States Commercial, 2¼ inches.

TABLE 19.—*Yellow Newtown apples: Price per box at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	Extra Fancy, 163 and 175 sizes			Fancy, 163 and 175 sizes		
	1925–26	1926–27	1927–28	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Sept. 28			2. 49–3. 04			
Oct. 5					[1] 2. 31–3. 53	2. 92
Oct. 12	3. 63	3. 47			2. 98	
Oct. 19	4. 12–4. 24	3. 28–3. 47		3. 51–3. 63	2. 80–3. 10	
Oct. 26	3. 64–4. 12	2. 92		3. 27–3. 64		
Nov. 2	2. 91–4. 12	2. 43–3. 04	3. 89–4. 14	2. 91–3. 88	2. 07–2. 43	3. 65–3. 89
Nov. 9	3. 64	2. 55–2. 68	4. 14–4. 50		1. 95–2. 62	4. 01–4. 32
Nov. 16		2. 86–3. 04	4. 14–4. 50	4. 12		3. 89–4. 14
Nov. 23	[2] 4. 60	3. 41	4. 32–4. 38		2. 86	4. 01–4. 08
Nov. 30	4. 60–4. 84	2. 98	3. 95–4. 38	4. 12–4. 36	2. 62–2. 80	3. 65–4. 26
Dec. 7	4. 24–4. 48	3. 41	3. 77–4. 01		2. 55	3. 71–3. 89
Dec. 14	4. 00	2. 98–3. 16	4. 20–4. 38	4. 00	2. 19–2. 69	3. 65–3. 89
Dec. 21					2. 55–2. 68	
Dec. 28					2. 25–2. 43	
Jan. 4	3. 64–3. 76	2. 55–2. 68		3. 40–3. 76	2. 07–2. 80	
Jan. 11	3. 52–3. 76	2. 68–2. 92	4. 08–4. 38	3. 46–3. 58	2. 19	3. 65–4. 14
Jan. 18	3. 65–3. 71	3. 04		3. 40–3. 59	2. 31–2. 55	
Jan. 25	3. 53–3. 77	2. 55–2. 92		3. 16	3. 10–3. 16	3. 04
Feb. 1	[3] 3. 28	3. 65	4. 62–4. 99	[4] 2. 68		4. 32–4. 56
Feb. 8	3. 71–3. 77		3. 89–4. 87	3. 47–3. 59	3. 41–3. 47	3. 53–4. 26
Feb. 15	3. 65–3. 71	3. 53–3. 59	3. 77–3. 83	3. 16–3. 41	2. 92	3. 35–3. 41
Feb. 22	3. 59–3. 77	3. 41–3. 53		3. 47–3. 53	2. 92–3. 28	
Feb. 29	3. 41–3. 53	3. 16–3. 41	3. 94–4. 14			3. 41–3. 71
Mar. 7	3. 45–3. 61	3. 35–3. 41	3. 89–4. 44		3. 16–3. 41	3. 53–4. 14
Mar. 14	3. 65	3. 65–3. 77	3. 89–4. 08		3. 41–3. 52	3. 65
Mar. 21	3. 89–4. 08	3. 59–3. 77	2. 74–2. 86		3. 65	3. 41–3. 71
Mar. 28	3. 65	3. 65–3. 89	3. 89–4. 14	3. 04–3. 28	3. 35–3. 41	3. 71–4. 01
Apr. 4	2. 92–3. 65	3. 41–3. 47	3. 47–3. 53	2. 80	3. 41–3. 47	3. 65–3. 77
Apr. 11	3. 41–3. 65		3. 53–3. 77	2. 68	3. 16–3. 28	2. 92–3. 41
Apr. 18		3. 65–3. 77				

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[1] Fancy, 150 size or larger.
[2] Combined Extra Fancy and Fancy, 163 and 175 sizes.
[3] Extra Fancy, 188 size or smaller.
[4] Fancy, 188 size or smaller.

TABLE 20.—*Jonathan apples, Pacific Northwest: Price per box at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	Extra Fancy, 163 and 175 sizes			Fancy, 163 and 175 sizes		
	1925–26	1926–27	1927–28	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Sept. 21		[1] 4. 38				
Sept. 28		3. 89–4. 01			3. 65	
Oct. 5	2. 54–3. 27	3. 89–4. 56		2. 18–2. 97		
Oct. 12	2. 42–3. 27	3. 47	4. 14–4. 20	2. 42–2. 90	2. 98–3. 28	3. 89–4. 08
Oct. 19	3. 03–3. 15	2. 68–2. 86	3. 89–4. 14	2. 78–2. 91	2. 25–2. 43	3. 65–3. 95
Oct. 26	2. 55–3. 15	2. 55	3. 77–3. 89	2. 18–2. 91	1. 95–2. 31	3. 53–3. 89
Nov. 2	2. 91–3. 05	2. 25–2. 31	3. 59–3. 77	2. 42–2. 91	1. 95–2. 19	3. 16–3. 28
Nov. 9	3. 39	2. 31–2. 43	[1] 3. 71		2. 13–2. 19	
Nov. 16			3. 65–3. 77			3. 22–3. 53
Nov. 23	3. 71		3. 41–3. 53	3. 51–3. 63		3. 35–3. 47
Nov. 30	3. 39–3. 63		4. 08–4. 32	3. 39	2. 62	2. 68–2. 80
Dec. 7	3. 09	2. 19–2. 68	2. 92–3. 04		2. 62	2. 55–2. 80
Dec. 14	3. 03–3. 58	2. 62	2. 86–2. 92	2. 91–3. 15		2. 43
Jan. 4	2. 91–3. 15	2. 92–3. 10		2. 67–2. 91	2. 68	
Jan. 11			2. 92–2. 98			2. 19–2. 43

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[1] Combination Extra Fancy and Fancy.

TABLE 21.—*Winesap apples, Pacific Northwest: Price per box at Liverpool, Wednesday auctions, 1925–26 to 1927–28*

Date	Extra Fancy, 163 and 175 sizes			Fancy, 163 and 175 sizes		
	1925–26	1926–27	1927–28	1925–26	1926–27	1927–28
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Nov. 9		[1] 2.19				
Nov. 16	3.76			3.51		
Nov. 23		2.19				
Nov. 30			3.28–3.41			2.68–2.92
Dec. 7	3.64		2.98			2.80
Dec. 14	3.39		2.98			2.80–2.86
Dec. 21		2.55–2.68				
Dec. 28		2.31–2.43			2.31	
Jan. 4	2.79	2.68–3.04	3.28	2.61–2.67	2.43–2.55	
Jan. 11	2.67–2.79	2.68–2.92	3.10–3.16		2.49–2.55	2.92–3.04
Jan. 18		2.86–2.92	3.10–3.16		2.80	2.92–2.98
Jan. 25	2.68–2.80	2.80–3.04	2.92–2.98	2.55	2.55–2.68	2.68–2.92
Feb. 1	2.43–2.62	3.41–3.47	2.68–2.80	2.43	2.38	2.43–2.68
Feb. 8		2.92–3.16	2.80–2.92		2.68–2.92	2.55–2.68
Feb. 15		3.35–3.41	2.68–2.74	[2] 2.49	3.16	2.55
Feb. 22		3.28	2.80–3.04	[2] 2.43–2.55	2.80–3.28	2.68–2.86
Feb. 29	3.28–3.41	2.92–3.16	3.04–3.10	3.16	2.55–3.04	2.80–2.92
Mar. 7	3.30	3.35–3.53	3.53–3.77	3.04–3.20		3.28–3.53
Mar. 14		3.16–3.41	3.53–3.59	3.16	2.92–3.16	2.86–2.92
Mar. 21	2.92–3.16	3.04–3.28	3.04–3.28	2.80–3.04	2.68–2.86	2.98–3.16
Mar. 28	2.68–2.80	2.68–3.04	3.04–3.10	2.19–2.55	2.43–2.68	2.98–3.04
Apr. 4	2.55	2.80–2.92	3.16–3.28	2.31–2.43	2.68–2.74	2.80–2.98
Apr. 11	2.55–2.80		3.41–3.71	2.49–2.68	2.19–2.31	3.10–3.35
Apr. 18		[3] 2.43			[3] 1.95–2.31	

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[1] Extra Fancy, 188 size or smaller. [2] Fancy, 188 size or smaller. [3] Poor condition.

TABLE 22.—*Apples: Imports into the United Kingdom by ports of entry, season 1927–28* [1]

Port of entry	United States	Canada	Other countries	Port of entry	United States	Canada	Other countries
	Bushels	*Bushels*	*Bushels*		*Bushels*	*Bushels*	*Bushels*
London	1,066,227	596,250	1,226,343	Glasgow	522,556	260,447	50,031
Southampton	322,134	95,950	185,315	Leith	56	1,364	11,809
Liverpool	2,139,171	651,755	280,125	Bristol	3,396	19,062	12,708
Manchester	229,419	275,607		Cardiff	52,087	79,153	3,256
Hull	232,243	31,593	259,135	Clyde and Forth	402,456	89,974	147,908
Newcastle	67,944	77,580	151,229				

Compiled currently from Weekly Fruit Intelligence Notes published by the Empire Marketing Board and subject to revision. Converted from hundredweights to bushels of 50 pounds.

[1] July 1, 1927, to May 19, 1928, last date available.

TABLE 23.—*Apples: United States exports, by customs districts, 1924–1928*

Customs district	Year ended June 30—				
	1924	1925	1926	1927	1928
	1,000 barrels	*1,000 barrels*	*1,000 barrels*	*1,000 barrels*	*1,000 barrels*
Maine and New Hampshire	30	69	52	94	51
New York	1,750	1,279	1,640	3,906	1,213
Philadelphia	42	3	1	25	(1)
Florida	11	10	12	14	10
San Antonio	(1)	(1)	(1)	1	(1)
San Francisco	(1)	0	2	(1)	0
Oregon	0	0	0	0	0
Washington	1	(1)	(1)	(1)	0
Michigan	20	4	5	17	5
All other	178	140	139	426	70
Total	2,032	1,505	1,851	4,483	1,349

[1] Less than 500 barrels.

TABLE 23.—*Apples: United States exports, by customs districts, 1924–1928*—Con.

Customs district	Year ended June 30—				
	1924	1925	1926	1927	1928
	1,000 boxes	*1,000 boxes*	*1,000 boxes*	*1,000 boxes*	*1,000 boxes*
Maine and New Hampshire	28	14	34	22	11
New York	3,810	2,367	2,327	2,989	2,212
Philadelphia	13	10	1	2	0
Florida	82	58	66	91	60
San Antonio	70	54	41	49	27
San Francisco	148	264	112	275	405
Oregon	541	1,177	940	1,688	684
Washington	701	588	1,168	1,784	1,366
Michigan	327	213	289	483	315
All other	478	343	486	459	304
Total	6,198	5,088	5,464	7,842	5,384

Compiled from official records of the Bureau of Foreign and Domestic Commerce.

TABLE 24.—*Apples: United States exports, by countries, years 1925–1928*

Country	Year ended June 30—			
	1925	1926	1927	1928
	Barrels	*Barrels*	*Barrels*	*Barrels*
United Kingdom	1,255,079	1,477,171	3,304,918	1,004,452
Germany	19,731	26,822	361,633	27,463
France	52	1,950	3,533	29
Sweden	70,237	83,191	72,378	82,389
Norway	22,675	21,443	28,759	19,987
Denmark	12,140	55,439	150,836	42,105
Other Europe	4,246	12,328	232,222	7,903
Total Europe	1,384,160	1,678,344	4,154,279	1,184,328
Canada	34,439	32,766	157,600	54,579
Mexico	1,999	1,501	2,538	1,735
Australia	0	0	474	49
Cuba	17,545	15,425	18,580	11,325
Brazil	1,177	10,084	7,276	2,426
Argentina	52,722	96,739	118,894	82,229
Other countries	13,182	15,780	23,081	11,860
Total	1,505,224	1,850,639	4,482,722	1,348,531
	Boxes	*Boxes*	*Boxes*	*Boxes*
United Kingdom	3,353,937	2,716,935	3,722,709	2,708,685
Germany	291,068	576,796	1,236,717	736,568
France	1,131	1,277	5,718	548
Sweden	106,269	137,644	196,179	218,211
Norway	88,251	87,521	95,053	101,236
Denmark	31,502	111,133	156,526	143,778
Other Europe	101,006	361,242	729,162	115,755
Total Europe	3,973,164	3,992,548	6,142,064	4,024,781
Canada	443,278	630,696	729,686	541,769
Mexico	118,042	93,683	98,849	75,145
Australia	0	0	3	706
Cuba	60,274	69,202	92,081	60,010
Brazil	109,174	145,807	172,297	115,040
Argentina	99,764	144,358	154,551	226,898
Other countries	284,432	387,226	454,607	339,983
Total	5,088,128	5,463,520	7,844,138	5,384,332

Compiled from Foreign Commerce and Navigation of the United States, and official records of the Bureau of Foreign and Domestic Commerce.

TABLE 25.—*York Imperial apples, Virginia:*[1] *Comparison of port auction prices per barrel with provincial market prices, season 1924–25*

Date	Liverpool		Newcastle			
	Auction price		Laid-down cost[2]		Actual price[3]	
	Shillings and pence	*Dollars*	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*
1924						
Dec. 20	25/0–28/0	5.87–6.57	27/10–30/10	6.53–7.24		
Dec. 22	23/6	5.52	26/4	6.18	23/0	5.40
1925						
Jan. 8	26/0–30/0	6.22–7.17	28/10–32/10	6.89– 7.85		
Jan. 15	35/0–38/0	8.37–9.09	37/10–40/10	9.05– 9.76		
Jan. 22	30/0–39/6	7.17–9.44	32/10–42/4	7.85–10.12		
Jan. 27	34/0–36/0	8.13–8.61	36/10–39/4	8.81– 9.40		
Jan. 30	29/0–32/6	6.93–7.77	31/10–36/4	7.61– 8.69	18/0–25/0	4.30–5.98
Feb. 5					34/0	8.11
Feb. 7	31/0–31/6	7.40–7.52	33/10–34/4	8.07– 8.19	34/0	8.11
Feb. 12	28/6	6.80	31/4	7.48		
Feb. 14	26/6–32/0	6.32–7.64	29/4 –34/10	7.00– 8.31	27/0–34/0	6.44–8.11
Feb. 18	31/0–34/0	7.40–8.11	33/10–36/10	8.07– 8.79	30/0–36/0	7.16–8.59

Date	Birmingham			
	Laid-down cost[2]		Actual price[3]	
	Shillings and pence	*Dollars*	*Shillings and pence*	*Dollars*
1924				
Dec. 20	27/9–30/9	6.52–7.22	25/0	5.87
Dec. 22	26/3	6.16	28/0–32/0	6.57–7.51
1925				
Jan. 8	28/9–32/9	6.87– 7.83	32/0	7.65
Jan. 15	37/9–40/9	9.03– 9.74	33/0–38/0	7.89–9.09
Jan. 22	32/9–42/3	7.83–10.10	35/0–40/0	8.37–9.56
Jan. 27	36/9–39/3	8.78– 9.38	35/0–38/0	8.37–9.09
Jan. 30	31/9–36/3	7.59– 8.67	30/0–35/0	7.17–8.37
Feb. 5			40/0	9.54
Feb. 7	33/9–34/3	8.05– 8.17	32/0–40/0	7.64–9.54
Feb. 12	31/3	7.46	34/0–40/0	8.11–9.54
Feb. 14	29/3–34/9	6.98– 8.29	34/0–40/0	8.11–9.54
Feb. 18	33/9–36/9	8.05– 8.77	34/0–40/0	8.11–9.54

[1] Grade A, 2 and 2½-inch minimum. [2] In large lots to wholesale trade. [3] Wholesalers' price to retail trade.

TABLE 26.—*Baldwin apples, Maine:*[1] *Comparison of port auction prices per barrel with provincial markets, 1924–25*

Date	Liverpool		Newcastle			
	Auction price		Laid-down cost		Actual price[2]	
	Shillings and pence	*Dollars*	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*
1924						
Dec. 20	28/0	6.57	30/10	7.24		
Dec. 22	20/0	4.70	22/10	5.36	25/0	5.87
1925						
Jan. 8	21/0–30/0	5.02–7.17	28/10–32/10	6.89–7.85	30/0	7.17
Jan. 15	33/0–37/0	7.89–8.85	35/10–39/10	8.57–9.52	32/0	7.65
Jan. 22	26/0–37/0	6.22–8.85	28/10–39/10	6.89–9.52	36/0	8.61
Jan. 29					42/0	10.04
Feb. 5	29/0–31/0	6.92–7.40	31/10–33/10	7.60–8.07		
Feb. 7	25/6–32/0	6.08–7.64	28/ 4–34/10	6.76–8.31	32/0	7.64
Feb. 14					27/6–35/0	6.56–8.35
Feb. 18	33/0–36/0	7.87–8.59	35/10–38/10	8.55–9.27	27/6–35/0	6.56–8.35
Feb. 21					28/0–35/0	6.68–8.35
Feb. 25					26/0–32/0	6.20–7.64
Mar. 4	28/0	6.69	30/10	7.36	32/0	7.64
Mar. 7	24/0–26/6	5.73–6.33	26/10–29/4	6.41–7.01		
Mar. 12					23/0–28/0	5.49–6.69

[1] Grade No. 1, 2½-inch minimum. Variety not regularly available in Birmingham and Sheffield.
[2] Wholesalers' price to retail trade.

TABLE 27.—*Extra Fancy Yellow Newtown apples:*[1] *Comparison of port auction prices per box with provincial market prices, season 1924–25*

Date	Liverpool		Newcastle			
	Auction price		Laid-down cost		Actual price	
1924	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*
Dec. 20	13/0	3.05	14/1	3.30	16/0	3.76
1925						
Jan. 8	13/3–14/0	3.17–3.35	14/4 –15/1	3.43–3.59	15/0	3.59
Jan. 15	14/6–15/3	3.47–3.65	15/7 –16/4	3.73–3.90	15/0	3.59
Jan. 22	14/0–15/9	2.35–3.77	15/0 –16/10	3.59–4.02	16/0	3.83
Jan. 27	12/3–13/9	2.93–3.29	13/4 –14/10	3.19–3.55	14/6–15/9	3.47–3.77
Jan. 29					13/6–15/0	3.23–3.59
Feb. 7	12/0–14/6	2.86–3.46	13/1 –15/7	3.12–3.72		
Feb. 12	12/9–13/9	3.04–3.28	13/10–14/10	3.30–3.54		
Feb. 14	13/6	3.22	14/7	3.48		
Feb. 18	13/3–16/0	3.16–3.82	14/4 –17/1	3.42–4.08	16/6	3.94
Feb. 21	14/0–16/6	3.34–3.94	15/1 –17/7	3.60–4.20	16/6	3.94
Feb. 25	15/6	3.70	16/7	3.96	16/0	3.82
Feb. 28	15/6–16/0	3.70–3.82	16/7 –17/7	3.96–4.20		
Mar. 4	14/6–15/0	3.46–3.58	15/7 –16/7	3.72–3.96		
Mar. 11	16/0–17/0	3.82–4.06	17/1 –18/1	4.08–4.32		
Mar. 12					16/0	3.82

Date	Sheffield				Birmingham			
	Laid-down cost[2]		Actual price[3]		Laid-down cost[2]		Actual price[3]	
1924	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*
Dec. 20					14/1	3.30	15/0–16/6	3.52–3.87
Dec. 22							14/0–16/0	3.29–3.76
1925								
Jan. 8					14/4–15/1	3.43–3.59	15/0–18/0	3.59–4.30
Jan. 15					15/7–16/4	3.73–3.90	15/0–16/0	3.59–3.83
Jan. 22					15/1–16/10	3.61–4.02	14/0–17/0	3.35–4.06
Jan. 27					13/4–14/10	3.19–3.55	15/0–18/0	3.59–4.30
Jan. 29							15/0–16/0	3.59–3.83
Feb. 5							15/0–16/0	3.58–3.82
Feb. 7					13/1–15/1	3.12–3.60	14/0–16/0	3.34–3.82
Feb. 12	13/8–14/8	3.26–3.50	16/0	3.82	13/10–14/10	3.30–3.54	14/0–16/0	3.34–3.82
Feb. 14	14/6	3.46			14/7	3.48	14/0–17/0	3.34–4.06
Feb. 18	14/3–17/0	3.40–4.06	17/0–18/6	4.06–4.41	14/4–17/1	3.42–4.08	16/0–18/0	3.82–4.30
Feb. 21	15/0–17/6	3.58–4.18			15/1–17/7	3.60–4.20	16/0–18/0	3.82–4.30
Feb. 25	16/6	3.94	16/0–18/0	3.82–4.30	16/7	3.96	16/0–17/0	3.82–4.06
Feb. 28	16/6–17/0	3.94–4.06			416/7–17/1	3.96–4.08	16/0–18/0	3.82–4.30
Mar. 4	15/6–16/0	3.70–3.82	16/0	3.82	15/7–17/1	3.72–4.08	16/0–17/0	3.82–4.06
Mar. 7							16/0–17/0	3.82–4.06
Mar. 11	17/0–18/0	4.06–4.30			17/1–18/1	4.08–4.32		
Mar. 12							16/0–17/0	3.82–4.06
Mar. 14							16/0–18/0	3.82–4.30

[1] Standard brand from Oregon. [2] In large lots to wholesale trade. [3] In small lots to retailers.

TABLE 28.—*Extra Fancy Esopus Spitzenberg apples:*[1] *Comparison of port auction prices per box with provincial market prices, season 1924–25*

Date	Liverpool		Newcastle			
	Auction price		Laid-down cost		Actual price	
1924	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*
Dec. 20	10/9	2.52	11/10	2.78	14/0	3.29
Dec. 22	10/0–11/0	2.35–2.58	11/1–12/1	2.60–2.84	15/0	3.52
1925						
Jan. 15	12/6–13/0	2.99–3.11	13/7–14/1	3.25–3.37	14/6	3.47
Jan. 22	9/6–12/9	2.27–3.05	10/7–13/10	2.53–3.31	14/6	3.47
Jan. 27	12/0–13/0	2.87–3.11	13/1–14/1	3.13–3.37	12/9	3.05
Jan. 29	12/0–12/9	2.87–3.05	13/1–13/10	3.13–3.31	12/0–13/6	2.87–3.23

[1] A standard brand.

TABLE 28.—*Extra Fancy Esopus Spitzenberg apples: Comparison of port auction prices per box with provincial market prices, season 1924–25*—Continued

Date	Birmingham			
	Laid-down cost [2]		Actual price [3]	
1924	*Shillings and pence*	*Dollars*	*Shillings and pence*	*Dollars*
Dec. 20	11/10	2.78	14/0	3.29
Dec. 22	11/1–12/1	2.60–2.84	12/0–14/0	2.82–3.29
1925				
Jan. 8			14/0–15/0	3.35–3.59
Jan. 15	13/7–14/7	3.25–3.49	14/0	3.35
Jan. 22	10/7–13/10	2.53–3.31	14/0–15/0	3.35–3.59
Jan. 27	13/1–14/1	3.13–3.37	14/0	3.35
Jan. 29	13/1–13/10	3.13–3.31	14/0–15/0	3.35–3.59

[2] In large lots to wholesale trade.

[3] Wholesalers' prices to retail trade.

TABLE 29.—*Fresh fruits: Tariff in principal European countries in 1928*

	Rates in foreign currency		Rates in United States currency [1]	
	General	Conventional [2]	General	Conventional [2]
United Kingdom: Fresh fruits, free.				
Germany:	*Marks per 100 kgs.*	*Marks per 100 kgs.*	*Dollars per 100 lbs.*	*Dollars per 100 lbs.*
Oranges, fresh	20.00	2.50	2.17	0.27
Lemons, fresh	12.00	Free.	1.30	
Bitter oranges, fresh, and other citrus fruits	12.00	2.00	1.30	.22
Apples—				
Unpacked—				
From Sept. 25, to Nov. 25	6.00	2.00	.64	.22
From Nov. 26 to Dec. 31	8.00	2.00	.86	.22
From Jan. 1 to Sept. 24	8.00	4.50	.86	.49
Packed—				
In sacks of at least 50 kgs. gross (110 lbs.) from Sept. 25 to Dec. 31	15.00	2.50	1.62	.27
In other packing (i. e., boxes, barrels, etc.)	15.00	7.00	1.62	.76
Pears—				
Packed in sacks weighing at least 50 kgs. gross (110 lbs.) from Sept. 1 to Nov. 30		2.50		.27
In other packing		7.00		.76
		Minimum [3]		Minimum [3]
France:	*Francs per 100 kgs.*	*Francs per 100 kgs. gross*		*Dollars per 100 lbs. gross*
Lemons, oranges, and other citrus fruits not specified	26.00	6.50	0.46	0.12
Mandarins	52.00	13.00	.92	.23
Bananas	20.40	5.10	.36	.09
Hothouse grapes and fruits (net)	780.00	195.00	13.86	3.47
Grapes for winemaking (raisins de vendange) and wine residues (imported between July 15 and Nov. 15)	211.20	52.80	3.75	.94
Apples for table use	17.00	4.25	.30	.08
Pears for table use	20.40	5.10	.36	.09
Apples and pears for cider or perry	10.20	2.55	.18	.05
Figs and almonds	20.40	5.10	.36	.09
Other fruit imported during the season when they ripen in France—				
Ordinary table grapes in small containers, weighing 20 kgs (44 lbs.) or less	54.40	13.60	.97	.24
Peaches, nectarines, and apricots	31.20	7.80	.55	.14
Plums, cherries, and strawberries	20.40	5.10	.36	.09
The same fruit imported at any other time	136.00	34.00	2.42	.60
All other fresh fruit	20.40	5.10	.36	.09

[1] Conversions to United States currency made at exchange rate prevailing on Aug. 1, 1928.

[2] American fruit takes conventional tariff.

[3] American fruit takes minimum schedule.

TABLE 29.—*Fresh fruits: Tariff in principal European countries in 1928*—Con.

	Rates in foreign currency		Rates in United States currency [1]	
	General	Conventional [2]	General	Conventional [2]
Netherlands:				
Apples	8 per cent ad valorem.		8 per cent ad valorem.	
All other fresh fruit, including citrus fruit, packed	8 per cent ad valorem.		8 per cent ad valorem.	
Denmark:	*Crowns per kg.*		*Dollars per 100 lbs.*	
Oranges and orange peel, lemons and grapefruit (tare, cases, 20 per cent)	[4] 0.065		[4] 0.79	
Fresh fruits in fancy packing, also pineapples, peaches, and apricots, fresh	1.00		12.16	
All edible fruits not otherwise specified, including apples and pears (tare, baskets, 12 per cent)	[4] .01		[4] .12	
Sweden:				
Pears, apples and berries (tare in casks or cases, 12 per cent; in chip baskets, 10 per cent; in wicker baskets, 15 per cent)	[4] .10		[4] 1.22	
Other fresh fruit, including oranges, lemons and grapefruit (tare, oranges, in cases weighing gross: 50 kgs. (110 lbs.) or less, 22 per cent; more than 50 kgs. (110 lbs.) 18 per cent; bitter oranges in cases, 22 per cent)	[4] .10		[4] 1.22	
Norway:	*Gold crowns per kg.* [5]			
Apples and pears—				
Imported from Aug. 1 to Dec. 31	0.60		7.18	
Imported from Jan. 1 to July 31	.30		3.59	
NOTE.—The customs department may in certain instances admit above fruit from Aug. 1 to Dec. 31 at 0.30 gold crown per kg. [6]				
Oranges of all kinds, lemons, limes, bitter oranges, and grapefruit (tare, cases, 22 per cent)	.03		.36	

Compiled from information furnished by the Division of Foreign Tariffs, U. S. Department of Commerce.

[1] Conversions to United States currency made to exchange rate prevaling on Aug. 1, 1928.
[4] Tare must be deducted before applying rate.
[5] Rates quoted in gold, but are payable in paper plus 10 per cent gold surtax.
[6] Because of short Norwegian crop in 1927 the 0.30 crown rate was made effective on Dec. 1, 1927.

COST OF LANDING AND SELLING APPLES AND OTHER FRESH FRUIT IN EUROPE

DEFINITION OF TERMS USED

Brokerage charges.—Auction commission and handling charges.

Handling charges, consolidated rate.—A uniform blanket deduction agreed upon among brokers at a single port, which covers items paid out in landing the fruit, with an additional margin for revenue.

Landing costs.—Amounts paid out in agreement with published tariffs or known scale of charges.

Selling charges.—Amount going to broker for selecting, watching, classifying, cataloguing, and profit. Represents difference between handling charges, consolidated rate, and landing costs.

Dock and town dues.—A charge made on goods passing through a port to provide revenue to support the works.

Master porterage.—A charge made at a given dock to cover labor done under a master porter in moving fruit from the ship's side, piling it on the quay according to consignee, and delivering it from the quay.

Porterage.—Labor involved in moving fruit.

Quay porterage.—Same as master porterage.

Dues, tolls, rates.—Charges made under published tariff to support public works used in connnection with delivery or landing of freight. For a discussion of these charges see Costs of Fruit Marketing in European Markets, page 3, Schedule of Costs in British Markets.

Wharfage.—Fee paid for use of wharf.

LONDON

[Conversions to United States currency, based on the average exchange rate of the English pound for 1927 ($4.86096)]

Covent Garden

Brokerage charges: Commission, private treaty, 5 to 6 per cent.

Handling charges (consolidated rate):	Shillings and pence	Cents
Apples, per box	1/0	24.30
Apples, per barrel	2/0	48.61
California oranges	1/0–1/3	24.30–30.38

Landing costs:

APPLES, BOXES

	Near docks		Tilbury docks	
	Pence	*Cents*	*Pence*	*Cents*
Wharfage	3¼	6.58	5¼	10.63
Port rates	¼	.51	¼	.51
Cartage, according to dock	2½–3½	5.06–7.09	2½	5.06
Market tolls and porterage	1½	3.04	1½	3.04
Total per box	7½–8½	15.19–17.22	9½	19.24

(1s. less 7½d. to 9½d. (15.19 to 19.24 cents) leaves from 2½d. to 4½d. (5.06 to 9.11 cents) per box to the broker for selecting, classifying, cataloguing, and profit, specified as selling charges.)

APPLES, BARRELS

	Near docks		Tilbury docks	
	Shillings and pence	*Cents*	*Shillings and pence*	*Cents*
Wharfage	6	12.15	11¼	22.78
Port rates	1	2.03	1	2.03
Cartage, according to dock	6–7	12.15–14.18	6	12.15
Market tolls and porterage	3–6	6.08–12.15	3	6.08
Total per barrel	1/4–1/8	32.41–40.51	1/9¼	43.04

(2s. (48.61 cents) less 1/4 (32.41 cents) to 1/9¼d. (43.04 cents) leaves from 2¾ to 8d. (5.57 to 16.20 cents) to the broker for selecting, classifying, cataloguing, and profit, specified as selling charges.)

	Near docks		Tilbury docks	
Florida grapefruit—California oranges:	*Pence*	*Cents*	*Shillings and pence*	*Cents*
Wharfage, per box	5¼	10.63	8⅛	16.45
Cartage	3–4	6.08–8.10	3	6.08
Market tolls and porterage	2	4.05	2	4.05
Total per box	10¼–11¼	20.76–22.79	1/1⅛	26.58

(1/3 (30.38 cents) less 1/1⅛ (26.58 cents) leaves 1⅞d. (3.80 cents) or 1/1 (26.33 cents) less 10¼d. to 11¼d. (20.76 to 22.79 cents) leaves from 1¾d. to 2¾d. (3.54 to 5.57 cents) for selecting, classifying, cataloguing, and profit, specified as selling charges.)

Monument Market

Brokerage charges: Commission (spot), 2 per cent. *Handling charges* (consolidated rate):	Shillings and pence	Cents
Spot, per box	1 0	24.30
Direct, per boxes	1 4	32.40
Spot, barrels	2 0	48.61
Direct, barrels	2 0	48.61
California oranges, per case	1 6	36.46
Florida grapefruit, per case	1 6	36.46
Idaho plums, basket crate	1 0	24.30

Landing costs: Wharfage and port rates are the same as for Covent Garden. There are no market tolls. Cartage is slightly less than at Covent Garden. Total landing costs are from 2d. to 3d. (4.05 to 6.08 cents) per box and from 3d. to 5d. (6.08 to 10.13 cents) per barrel less than for Covent Garden.

Note.—Very few American apples arrive at Tilbury Docks. Many apples sold at auction at the Monument Market stand a lighterage charge instead of a cartage charge.

LIVERPOOL

Brokerage charges: Commission, 3 (spot) to 7 per cent. *Handling charges* (consolidated rate):	Shillings and pence	Cents
Apples, per box	11	22.28
Apples, barrel	1 5	34.43
Apples, crate	1 0	24.30
California oranges, case	1 3	30.38
Florida grapefruit, per case	1 3	30.38
Prunes, 4-basket crate	9	18.23
Peaches, 6-basket carrier	1 2	28.36
Landing costs:		
Apples, boxes—	Pence	Cents
Dock and town dues, per box	2	4.05
Master porterage, per box	2	4.05
Total	4	8.10
(11d. 2.28 cents) less 4d. (8.10 cents) leaves 7d. (14.18 cents) per box to the broker for selecting, watching, classifying, cataloguing, and profit.)		
Apples, barrels—		
Dock and town dues, per barrel	4	8.10
Master porterage, per barrel	3¼	6.58
Total, per barrel	7¼	14.68
(1/5d. (34.43 cents) less 7¼d. (14.68 cents) leaves 9¾d. (19.75 cents) per barrel to the broker for selecting, watching, classifying, cataloguing, and profit.)		
California oranges—Florida grapefruit.[1]		
Dock and town dues, per box	2.5	5.00
Master porterage, per box	1.5	3.04
Total, per box	4.0	8.10
(1/3d. (30.38 cents) less 4d. (8.10 cents) or 5½d. (11.14 cents) leaves from 9½d. (19.24 cents) to 11d. (22.28 cents per box to the broker for selecting, watching, classifying, cataloguing, and profit.)		

[1] Grapefruit is not specified in Mersey Docks and Harbour Board published rates. "Fruit not otherwise rated" in packages between 28 pounds and 112 pounds are charged 3d. (6.08 cents) per package.

GLASGOW

	Shillings and pence	Cents
Brokerage charges: Commission, 3 (spot) to 7 per cent.		
Handling charges (consolidated rate):		
Apples, per box	9	18.23
Apples, per barrel	1 5	34.43
Apples, per crate	11	22.28
California oranges	1 5	34.43
Landing costs:		
Apples, boxes—	Pence	Cents
Clyde dues, 3 shillings (72.91 cents) per ton [2]	0.82	1.66
Master porterage	2.00	4.05
Watching, 3 nights	.05	.10
Weighing	.03	.06
Total, per box	2.90	5.87
(9d. (18.23 cents) less 2.9d. (5.87 cents) per box leaves 6.1d. (12.36 cents) per box to the broker for selecting, cataloguing, and profit.)		
Apples, barrels—		
Clyde dues, 3s. (72.91 cents) per ton	2.57	5.21
Master porterage	3.20	6.48
Watching, 3 nights	.17	.34
Weighing	.10	.20
Total, per barrel	6.04	12.23
(1/5d. (34.43 cents) less 6.04d. (12.23 cents) leaves 10.96d. (22.20 cents) per barrel to the broker for selecting, classifying, cataloguing, and profit.)		

MANCHESTER

Brokerage charges: Commission, 3 (spot) to 7 per cent.

	Shillings and pence	Cents
Handling charges (consolidated rate):		
Apples, per box	11	22.28
Apples, per barrel	1 6	36.46
California oranges, per case	[3] 1 5	34.43
Florida grapefruit, per case	[4] 1 5	34.43
Landing costs:		
Apples, boxes—	Pence	Cents
Canal tolls, including wharfage	2.50	4.56
Quay porterage, 9d. (18.23 cents) per ton, less 7½ per cent, equivalent	2.27	4.59
Total per box	4.52	9.15
(11d. (22.28 cents) less 4.52 (9.15 cents) leaves 6.48d. (13.13 cents) per box to the broker for selecting, classifying, cataloguing, and profit.)		
Apples, barrels—		
Canal tolls, including wharfage per barrel	7.0	14.18
Quay porterage (4/8d. (113.42 cents) per ton less 7½ per cent), per barrel	3.7	7.49
Total, per barrel	10.7	21.67
(1/6d. (36.46 cents) less 10.7d. (21.67 cents) leaves 7.3d. (14.79 cents) per barrel to the broker for selecting, classifying, cataloguing, and profit.)		

[2] 1 ton equivalent to 44 boxes or 14 barrels.
[3] And 3 per cent.
[4] And 5 per cent.

SOUTHAMPTON

	Shillings and pence	Cents
Brokerage charges: Commission, 3 (spot) to 7 per cent.		
Handling charges (consolidated rate):		
Apples, per box	10	20.25
Apples, per barrel	1 6	36.46
American oranges	1 6	36.46
Landing costs:		
Wharfage, receiving, sorting, delivering to dock gates		
Apples, boxes—		
aboard cars—		
Per ton	10	243.82
Per box	2.72	5.51
(10d. (20.25 cents) less 2.72d. (5.51 cents) leaves 7.28d. (14.74 cents) per box to the broker for selecting, classifying, cataloguing, and profit.)		
Apples, barrels—		
Wharfage, receiving, sorting, delivery to dock gates aboard cars—		
Per ton	8	194.44
Per barrel	6.86	13.89
(1/6d. (36.45 cents) less 6.86d. (13.89 cents) leaves 11.14d. (22.56 cents) per barrel to the broker for selecting, classifying, cataloguing, and profit).		

HULL

	Shillings and pence	Cents
Brokerage charges: Commission 3 (spot) to 5 per cent.		
Handling charges (consolidated rate):		
Boxes, per case	11	22.28
Barrels, per case	1 5	34.43
California oranges	1 4	32.41
Florida grapefruit	1 3	30.38
Landing costs:		
Boxes of apples—		
Wharfage, 1s (24.30 cents), per ton plus 60 per cent	1 7.2	38.89
Laborage, 3/9 (91.14 cents), per ton plus 160 per cent	9 9.0	236.97
Rent, 1 week 4d. (8.10 cents), per ton plus 60 per cent	6.4	12.96
Total, per ton	11 10.6	288.82
Per box	3.24	6.56
(11d. (22.28 cents) less 3.24d. (6.56 cents) leaves 7.76d. (15.72 cents) per box to the broker for selecting, classifying, cataloguing, and profit.)		
Apples, per barrel—		
Wharfage, 6d. (12.15 cents), per ton plus 60 per cent	9.6	19.44
Laborage, 2/9 (66.84 cents)	7 1.8	173.78
Rent, 1 week 3d. (6.08 cents), per ton plus 60 per cent	4.8	9.72
Total, per ton	8 4.2	202.94
Per barrel	7.2	14.58
(1/5d. (34.43 cents) less 7.2 (14.58 cents) leaves 9.8d. (19.85 cents) per barrel to the broker for selecting, classifying, cataloguing, and profit.)		

BRISTOL

	Shillings and pence	Cents
Brokerage charges: Commission, 3 (spot) to 7 per cent.		
Handling charges (consolidated rate):		
Apples, per box	11	22.28
Apples, per barrel	1 10	44.56
California oranges	1 6	36.46

	Shillings and pence	Cents
Landing costs:		
Dues and rates, city of Bristol, per ton	2 2.4	53.47
Laborage, receiving, sorting, piling, delivery	7 4	178.24
Transit shed dues (total per ton)	9 6.4	231.71
Apples, boxes, per box	2.6	5.27
(11d. (22.28 cents) less 2.6 (5.27 cents) leaves 8.4 (17.01 cents) per box to the broker for selecting, classifying, cataloguing, and profit.)		
Apples, barrels, 9/6.4 (231.71 cents), per barrel	8.17	16.55
(1/10d. (44.56 cents) less 8.17 (16.55 cents) leaves 1/1.83 (28.01 cents) per barrel to the broker for selecting, classifying, cataloguing, and profit.)		

CARDIFF

	Shillings and pence	Cents
Brokerage charges: Commission, 3 (spot) to 7 per cent.		
Handling charges (consolidated rate):		
Apples, per box	11	22.28
Apples, per barrel	1 7	38.48
Oranges, per case	1 8	40.51
Oranges, per box	1 4	32.41
Landing costs:		
Dock charges, per ton	1 0.75	25.82
Landing (labor), per ton	6 0	145.83
Total per ton	7 0.75	171.65
Apples in boxes—		
At 7/¾d. (171.65 cents), per ton, equivalent per box	1.93	3.91
Rent, per box	.5	1.01
Total	2.43	4.92
(9d. (18.23 cents) less 2.43 (4.92 cents) leaves 6.57 (13.31 cents) per box to the broker for selecting, classifying, cataloguing, and profit.)		
Apples in barrels—		
At 7/¾d. (171.65 cents) per ton, equivalent per barrel	6.00	12.15
Rent, per barrel	.50	1.00
Total, per barrel	6.50	13.15
(1/6d. (36.46 cents) less 6.50d. (13.15 cents) leaves 11.50d. (23.31 cents per barrel to the broker for selecting, classifying, cataloguing, and profit.)		

NEWCASTLE ON TYNE

Brokerage charges: Commission 3 (spot) to 7 per cent.

	Shillings and pence	Cents
Handling charges (consolidated rate):		
Apples, per box	11	22.28
Apples, barrel	1 5	34.43
California oranges, per box	1 4	32.41
Florida grapefruit, per box	1 4	32.41
Landing costs:		
Apples—		
Package duty, per ton	8	16.20
Wharfage rates 1/3 (30.38 cents), less than 10 per cent	1 1.5	27.34
Cranage	9	18.23
Total	2 6.5	61.77

2/6.5 (61.77 cents) per ton is equivalent to 9.7d. (19.65 cents) per box.
2/6.5 (61.77 cents) per ton is equivalent to 2.2d. (4.46 cents) per barrel.
(11d. (22.28 cents) less 0.7d. (1.42 cents) leaves 10.3d. (20.86 cents) per box for removal of fruit from quay to warehouse, selecting, classifying, cataloguing, and profit. 1/5 (34.43 cents) less 2.2d. (4.46 cents) leaves 1/2.8d. (29.98 cents) per barrel for similar items.

ANTWERP

Brokerage charges: Commission 5 per cent.

Handling charges (consolidated rate):	Francs	Cents
Apples, per box	7.00	19.49
Apples, barrel	12.00	33.41
California oranges, per box	8.75	24.36
Florida grapefruit, per box	8.75	24.36

ROTTERDAM

Brokerage charges: Commission 4 to 6 per cent.

Handling charges (consolidated rate):	Pence	Cents
Apples, per box (spot)	4	8.10
Apples, barrel (spot)	6	12.15
California oranges, per box	4	8.10
Florida grapefruit, per box	4	8.10
Landing costs: Labor and warehouse, Florin, per ton	1.10	44.22

Apples, boxes: Florin 1.10 (44.22 cents par value) per ton, equivalent to 1 cent per box (8 cents less 1 cent leaves 7 cents to the broker for selecting, classifying, cataloguing, and profit).

Apples, barrels: Florin 1.10 (44.22 cents) per ton, equivalent to 3.14 cents per barrel (12 cents less 3.14 cents leaves 8.86 cents to the broker for selecting, classifying, cataloguing, and profit).

BREMEN

Brokerage charges: Commission, 6 per cent.

Handling charges (consolidated rate):	Marks= 23.82 par	Cents
Apples, per box	0.80	19.06
Apples, barrel	1.75	41.68
California oranges, case	.75	17.86
Grapefruit, case	1.00	23.82

Landing costs:

Port and dock dues, free.

Porterage, 14½ pfennigs (3.5 cents) per 100 kilos (220.46 pounds).

Storage free for first four days, thereafter 5 pfennigs (1.2 cents) per 100 kilos (220.46 pounds) from fifth to the tenth days.

Piling and delivery into warehouse and shed, 6 pfennigs (1.4 cents) per 100 kilos (220.46 pounds).

Inspection fee 10 pfennigs (2.4 cents) per package.

Apples, boxes—	Cents
14½ pfennigs (3.5 cents) per 100 kilos (220.46 pounds) equivalent per box	0.77
6 pfennigs (1.4 cents) per 100 kilos (220.46 pounds) equivalent per box	.32
10 pfennigs (2.4 cents) per box, inspection fee	2.39
Total per box	3.48

(19.04 cents less 3.48 cents leaves 15.56 cents per box to the broker for selecting, classifying, cataloguing, and profit.)

Apples, barrels—	
14½ pfennigs (3.5 cents) per 100 kilos (220.46 pounds) equivalent per barrel	2.37
6 pfennigs (1.4 cents) per 100 kilos (220.46 pounds) equivalent per barrel	1.01
10 pfennigs (2.4 cents) per barrel, inspection fee	2.39
Total per barrel	5.77

(41.7 cents less 5.77 cents leaves 35.93 cents per barrel to the broker for selecting, classifying, cataloguing, and profit.)

HAMBURG

Brokerage charges: Commission, 6 per cent.

Handling charges (consolidated rate):	Marks	Cents
Apples, per box	0.85	20.25
Apples, per barrel	1.75	41.68
California oranges, case	1.00	23.82
Florida grapefruit, case	1.00	23.82

Landing costs:

Quay charges, free port, 15 pfennigs (3.57 cents) per 100 kilos (220.46 pounds).

Landing charges, labor, 15 pfennigs (3.57 cents) per 100 kilos (220.46 pounds).

Inspection fee, 10 pfennigs (2.38 cents) per 100 kilos (220.46 pounds).

Apples, boxes—

	Cents
30 pfennigs (7.14 cents) per 100 kilos (220.46 pounds), equivalent per box	1.62
10 pfennigs (2.38 cents) per package, inspection fee	2.39
Total per box	4.01

(20.23 cents less 4.10 cents leaves 16.22 cents per box to the broker for selecting, classifying, cataloguing, and profit.)

Apples, barrels—

30 pfennigs (7.14 cents) per 100 kilos (220.46 pounds), equivalent per barrel	5.10
10 pfennigs (2.38 cents) per package, inspection fee	2.39
Total per barrel	7.49

(41.7 cents less 7.49 cents leaves 34.21 cents per barrel to the broker for selecting, cataloguing, classifying, and profit.)

COPENHAGEN

1 krone=100 øre=21.37 cents at average exchange for July, 1925. At par the krone is equivalent to 26.8 cents.)

Brokerage charges: Commission, 5 per cent.

Handling charges (consolidated rate):	Krone	Cents
Apples, per box	0.50	13.40
Apples, per barrel	1.00	26.80
California oranges, case	.75	20.10
Florida grapefruit, case	.75	20.10

Landing costs:

Harbor dues, 27 øre (7.24 cents) per 100 kilos (220.46 pounds), 3.28 per 100 pounds.

NOTE.—The master porterage is done by the fruit broker who receives the apples at the ship's side, loads them on trucks, and conveys them to covered sheds in the free port, where they are sorted and classified for auction sale. This labor is included in the consolidated handling rate given above.

Apples, boxes—

27 øre (7.24 cents) per 100 kilos (220.46 pounds) equals 6.1 øre (1.63 cents) per box. 50 øre (13.40 cents) less 6.1 øre (1.63 cents) leaves 43.9 øre (11.77 cents) (about 26.8 cents at July exchange) per box for dock labor, carting to shed, selecting, classifying, cataloguing, and profit.

Apples, barrels—

27 øre (7.24 cents) per 100 kilos (220.46 pounds) equals 19.3 øre (5.17 cents) per barrel. Kr. 1 (26.80 cents) less 19.3 øre (5.17 cents) leaves 80.7 øre (21.63 cents) (about at July exchange) per barrel for dock labor, carting to shed, selecting, classifying, cataloguing, and profit.

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